TD0503017C3

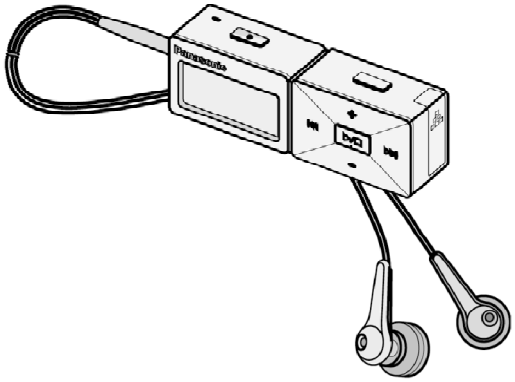
Digital Audio Player

SV-MP720VGC / SV-MP720VGK / SV-MP720VGH / SV-MP720VGD / SV-MP720VGN

Colour

(W)..... White Type

(K)..... Black Type



SPECIFICATIONS

Specifications

PDF created with pdfFactory Pro trial version www.pdffactory.com

Memory size:	**512 MB**
Supported sampling frequency: /	**MP3; 32 kHz, 44.1 kHz, 48 kHz, WMA; 8 kHz to 44.1 kHz**
Supported bit-rates:	**MP3 8 kbps to 320 kbps (128 kbps is recommend) WMA 32 kbps to 192 kbps (96 kbps is recommend)**
No. of channels:	**Stereo, 2 channels (MUSIC, FM RADIO), Mono 1 channel (IC RECORDER)**
Frequency response:	**20 Hz to 20,000 Hz (+0dB, -6dB) (MUSIC), 300 Hz to 4,300 Hz (IC RECORDER,HQ mode)**
Mic S/N:	**30 dB (IC RECORDER,HQ mode)**
Radio Frequency range (FM):	**87.9 MHz to 107.9 MHz (200kHz steps),87.5 MHz to 108.0 MHz (50/100 kHz steps),**
Output:	**4.5 mW + 4.5 mW (16 Ω ,M3 jack)**
Power supply:	**DC 1.2V (one rechargeable battery)**
Approximate play times:	**10 hours (MUSIC), 5 hours (FM RADIO)**
Approximate recording times:	**9 hours (IC RECORDER, HQ mode) 5 hours (FM RADIO)**
Cabinet dimensions (WxHxD):	**70.0 x 22.2 x 14mm**
Mass:	**36.2g with battery / 23.5g without battery**
AC adaptir input:	**AC110V ~ 240V,50 Hz/ 60 Hz**
Power consumption in standby mode: 0.2W	

-Specifications are subject to change without notice.
-The play times shown depend on operating conditions.
-Mass and dimensions are approximate.
-MB means one million bytes. Useable capacity may be less.
-This product is compatible with the following character code. The display may not appear correctly with other character codes.
-(When the supplied rechargeable battery is fully charged.)

© 2005 Matsushita Electric TAIWAN Industrial Co., Ltd. All rights reserved. Unauthorized copying and distribution is a violation of law.

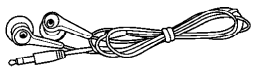
PDF created with pdfFactory Pro trial version www.pdffactory.com

Panasonic

1. Accessories

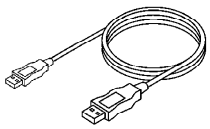
- Stereo earphones

(L0BAB0000188) ..... 1pc.



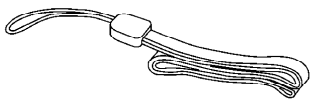
- USB Cable

(K1HA05AD0003)..... ..... 1pc.



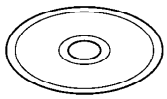
- Neck Strap

(RFAT0006-Q) .....1pc.



- CD-ROM Driver

(RFET0002) ..... 1pc.

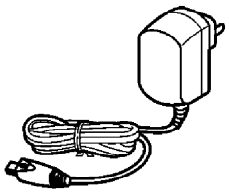


- AC Adaptor

(N0JZCD000001) .....[GK].
(N0JZCD000002) .....[GD].

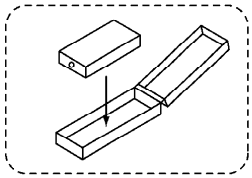
PDF created with pdfFactory Pro trial version www.pdffactory.com

(N0JZCD000003) .....[GC].
(N0JZCD000004) .....[GH].
(N0JZCD000005) .....[GN].



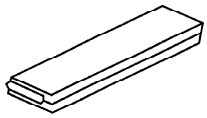
- Battery Ass'y

(ZBRP-BP65HE).....1pc.



- Battery Case

(RFCT0005-H) ..... 1pc.



2. Supply of Rechargeable Battery as Replacement Parts

- Please take note of the following points relating to Carrying Case to be used for protection of Rechargeable Battery from shorting. Replacement Parts:

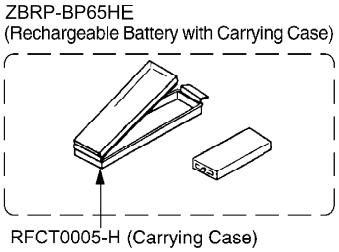
- Rechargeable Battery (ZBRP-BP65HE) to be supplied will be provided with Carrying Case (RFCT0005-H).

- No replacement parts will be supplied for Rechargeable Battery without Case.

- Replacement parts will be supplied for Carrying Case (RFCT0005-H) without Rechargeable Battery.

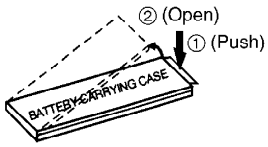
- To your customers, delivery Rechargeable Battery together with Carrying Case to prevent shorting accidents that may occur when Rechargeable Battery is carried about without Carrying Case.

PDF created with pdfFactory Pro trial version www.pdffactory.com



3. Caution in Use of Rechargeable Battery

- Take Rechargeable Battery out of Carrying Case and use iy. Be sure to carry Rechargeable Battery in this Carrying Case. If not, may either head or ignite by shorting with a metal.



4. Location of Controls

5. Operation Checks and Component Replacement / Procedures

1. **This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components. /**
2. **For reassembly after operation checks or replacement, reverse the respective procedures special ressembly procedures are described only when required.**
3. **Select item from the following index when checks or replacement are required.**

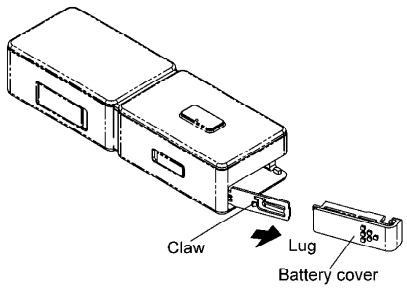
Contents

1. Checking for the main P.C.B.
2. Checking for the memory P.C.B.
3. Checking for the tuner P.C.B.
4. Checking for the LCD ass'y.
5. Checking for the prevent electrostatic discharge.

5.1. Removal of the battery cover

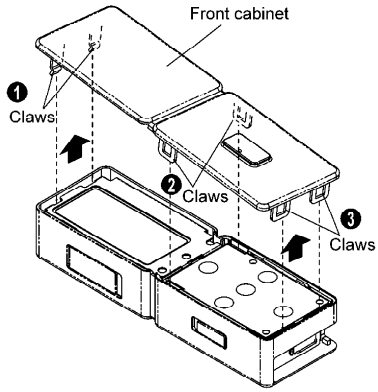
PDF created with pdfFactory Pro trial version www.pdffactory.com

1.Release the claw.
2.Remove the battery cover in the direction of arrow.



5.2. Removal of the front cabinet

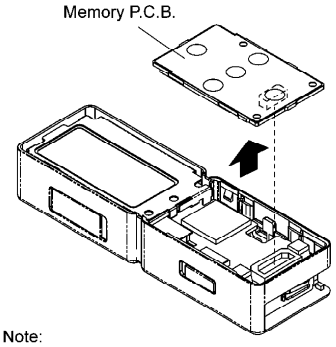
1.Release the claws x 6.
2.Remove the front cabinet in the direction of arrow.



Note:When release of the claws,Please follow the step ❶ ⟶ ❷ ⟶ ❸ . in sequence.

5.3. Removal of the memory P.C.B.

1.Remove the memory P.C.B. in the direction of arrow.

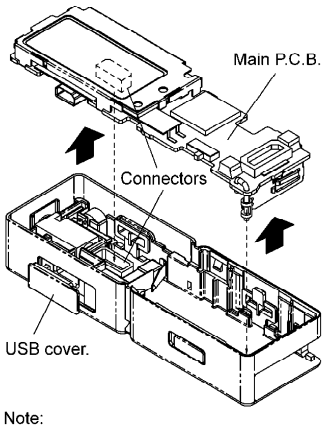


Note:
1.When installing the Memory P.C.B., insert the connectors on the straight carefully.

5.4. Removal of the main P.C.B.

PDF created with pdfFactory Pro trial version www.pdffactory.com

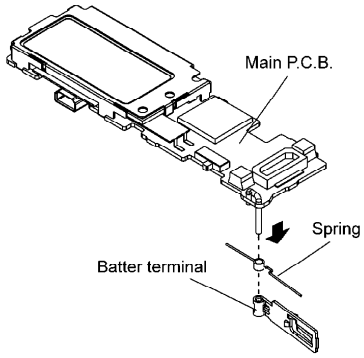
1.Open the USB cover.
1.Remove the main P.C.B. in the direction of arrow.



Note:
1.When installing the Main P.C.B., insert the connectors on the straight carefully.
2.Close the USB cover.

5.5. Removal of the battery terminal.

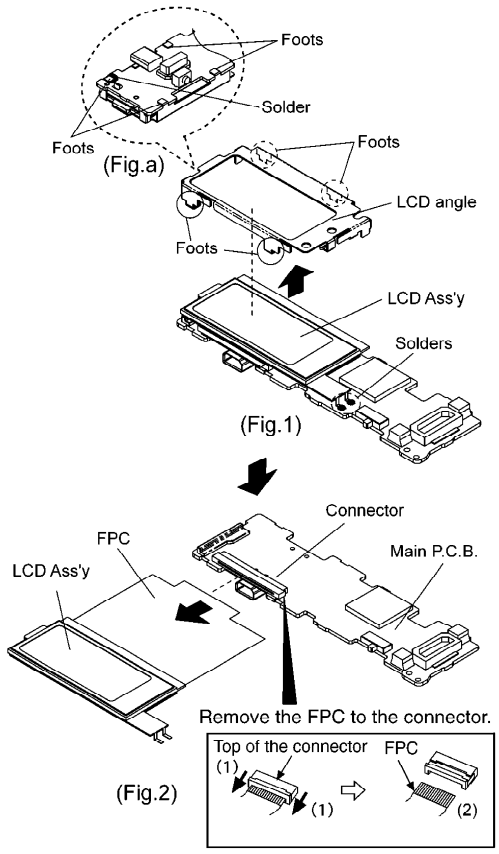
1.Remove the batter terminal in the direction of arrow.



5.6. Removal of the LCD Ass'y

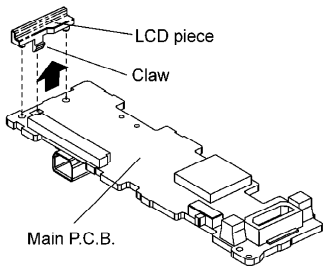
PDF created with pdfFactory Pro trial version www.pdffactory.com

1.Remove the solder x 1.(Fig.a)
2.Remove the LCD angle foots x 4.
3.Remove the LCD angle in the direction of arrow.
4.Remove the solders x 2. (Fig.1)
5.Release the connector and then remove the LCD Ass'y. (Fig.2)



5.7. Removal of the LCD Piece

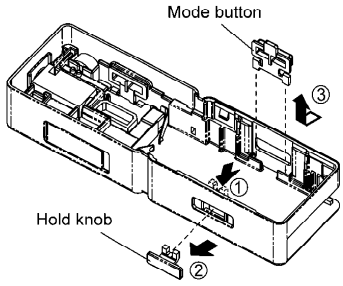
1.Release the claw.
2.Remove the LCD piece in the direction of arrow.



5.8. Removal of the mode button and hold knob

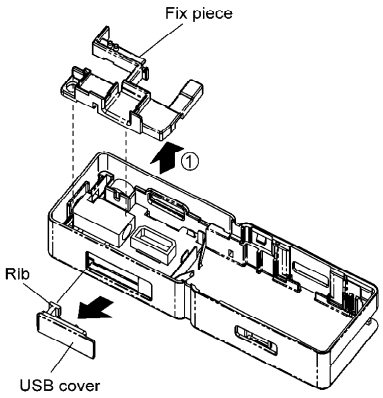
PDF created with pdfFactory Pro trial version www.pdffactory.com

1.Remove the hold knob in the direction of arrow ① and ②.
2.Remove the mode button in the direction of arrow ③.



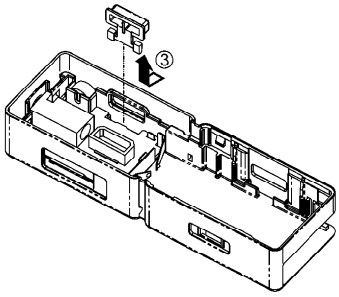
5.9. Removal of the USB fix piece and USB cover

1.Remove the fix piece in the direction of arrow ①.
2.Remove the rib and then remove the USB cover.



5.10. Removal of the REC button

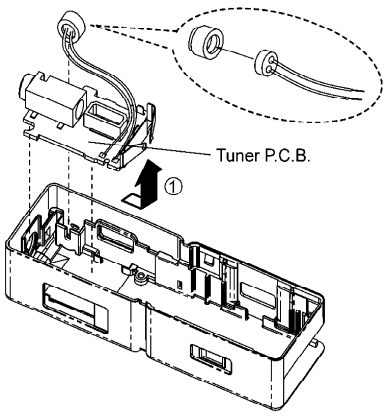
1.Remove the hold knob in the direction of arrow ① and ②.



5.11. Removal of the tuner P.C.B. and MIC ass'y

PDF created with pdfFactory Pro trial version www.pdffactory.com

1.Remove the tuner P.C.B. in the direction of arrow ① .



6. Instructions for Repair Service

How to Set the unit after Repair
Please adjust the unit settings with the following directions after the below part is replaced:

	Exchange Parts	Content
A	DSP IC	① Install the software by using DFU. ② Copy the Font table into the root directory.
B	Flush-ROM	Copy the Font table and software into the root directory.

Please follow below instruction when you need to replace PWB included DSP IC or Flush-ROM.

< Procedure >

1. Preparation

Download the necessary software (DFU, Firmware, Font table) from TSN-WEB (Support Information From NWBG-PAVC).

(NOTE) If you may not be able to complete a downloading from the above TSN-WEB page, Please obtain the data through your local Panasonic Service Organization.

A (DSP IC):

2. Enter the Service Mode (Refer to the Inspection Procedure of DSP-IC).
3. Install the Firmware Soft by using DFU.
4. Copy the Font Table (into the route directory in the unit).
5. Unplug the USB cable and Jumper pin after installing.
6. Follow the check procedure to confirm DSP-IC and Font Table is set.

B (Flash-ROM):

2. Copy the Firmware Soft and Font Table into the root directory in the unit.
3. Unplug the USB cable.
4. Follow the check procedure to confirm DSP-IC and Font Table is set.

7. Service Position

PDF created with pdfFactory Pro trial version www.pdffactory.com

■ Test Board (RFKZ0287)

CN5
To C MAIN P.C.B.(CN1)

CN1
To B MEMORY P.C.B.(CN5)

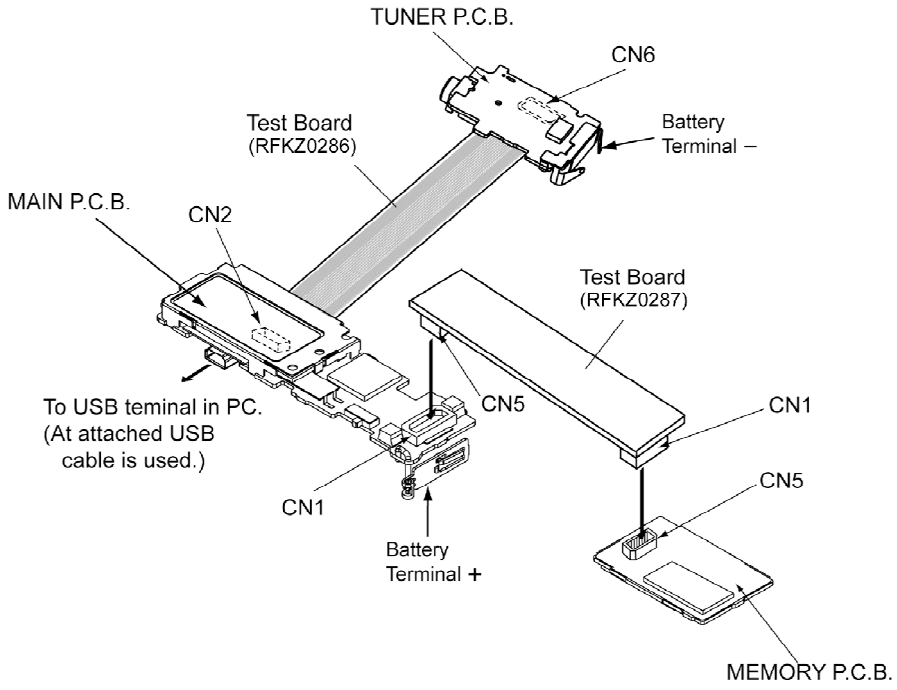
● Connect CN5 of the Test Board to MAIN P.C.B. CN1 of the MAIN P.C.B. and connect CN1 of the Test Board to CN5 of the MEMORY P.C.B.

■ Test Board (RFKZ0286)

CN6
To C MAIN P.C.B.(CN2)

CN2
To A TUNER P.C.B.(CN6)

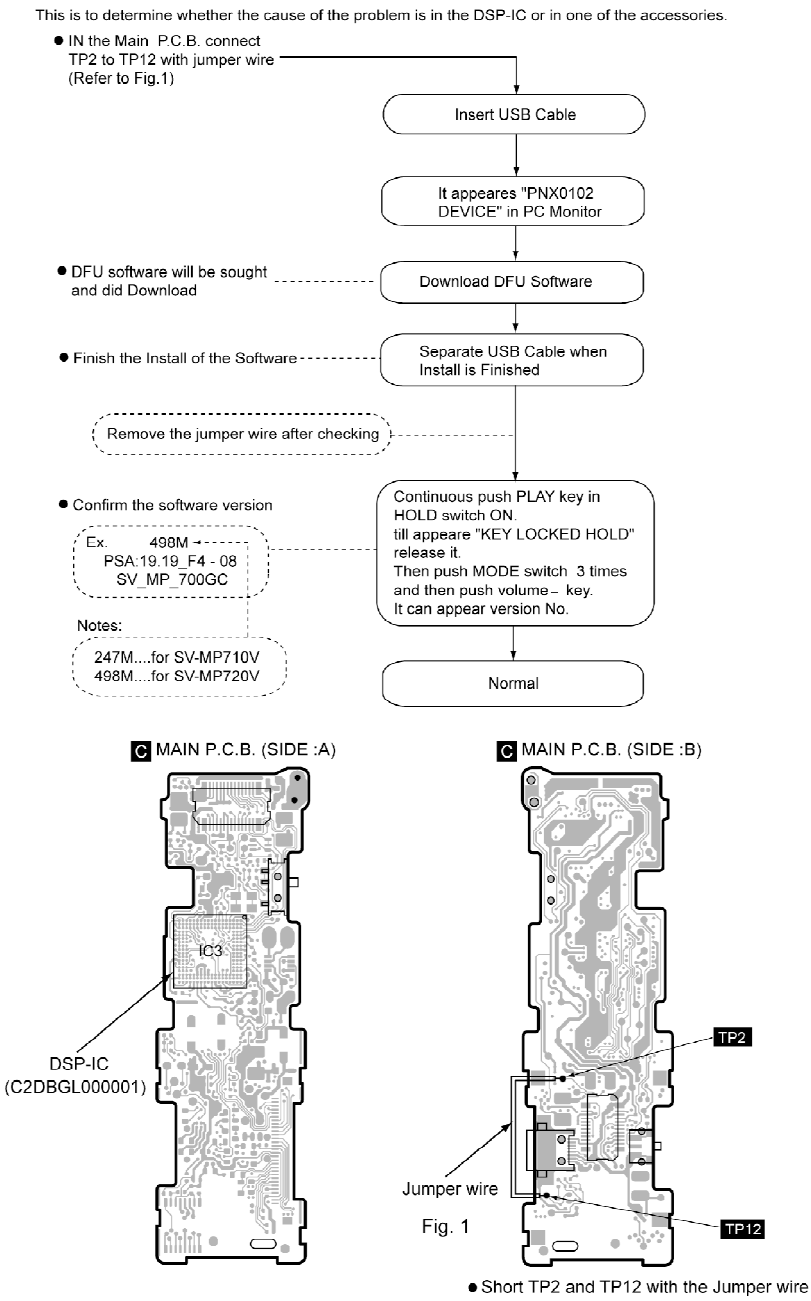
● Connect CN6 of the Test Board to MAIN P.C.B. CN2 of the MAIN P.C.B. and connect CN2 of the Test Board to CN6 of the TUNER P.C.B.



8. Service Mode

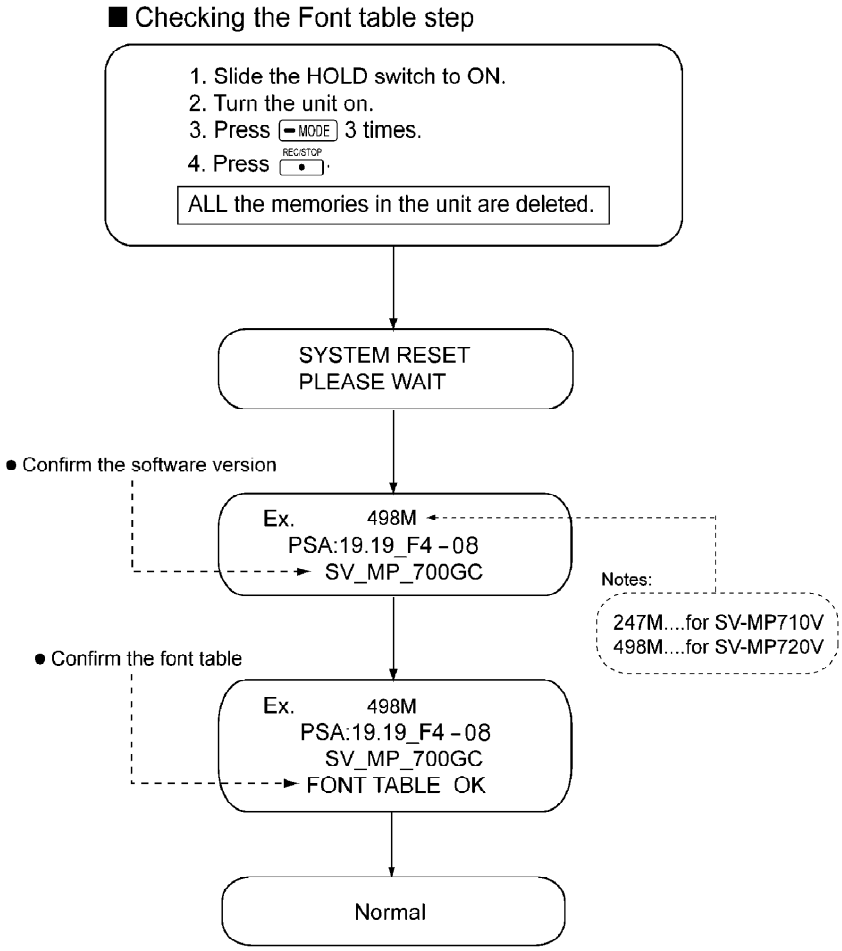
8.1. Checking Procedures for IC3 C2HBZG000008

PDF created with pdfFactory Pro trial version www.pdffactory.com


This is to determine whether the cause of the problem is in the DSP-IC or in one of the accessories.
● IN the Main P.C.B. connect TP2 to TP12 with jumper wire (Refer to Fig.1)
Insert USB Cable
It appeares "PNX0102 DEVICE" in PC Monitor
● DFU software will be sought and did Download
Download DFU Software
● Finish the Install of the Software
Separate USB Cable when Install is Finished
Remove the jumper wire after checking
● Confirm the software version
Ex. 498M
PSA:19.19_F4 - 08
SV_MP_700GC
Notes:
247M....for SV-MP710V
498M....for SV-MP720V
Continuous push PLAY key in HOLD switch ON.
till appeare "KEY LOCKED HOLD" release it.
Then push MODE switch 3 times and then push volume – key.
It can appear version No.
Normal
C MAIN P.C.B. (SIDE :A)
IC3
DSP-IC
(C2DBGL000001)
C MAIN P.C.B. (SIDE :B)
TP2
Jumper wire
TP12
Fig. 1
● Short TP2 and TP12 with the Jumper wire

8.2. Checking Procedures for Font table

PDF created with pdfFactory Pro trial version www.pdffactory.com



9. Service Precautions

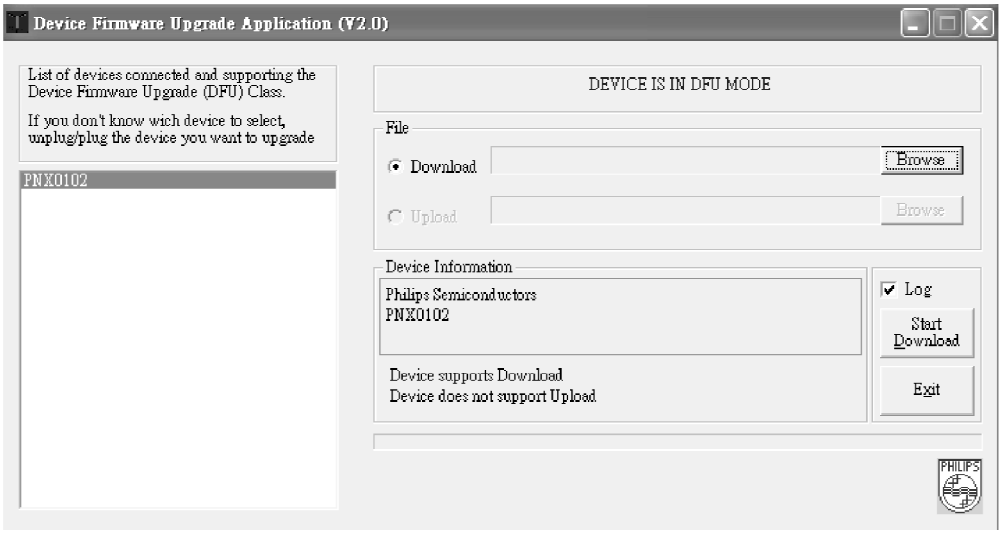
9.1. Install and Copy the software (DFU,firmware,font table) After replacing the main PCB and DSP IC (main CPU),reinstall DFU and firmware,and copy font table again.

9.2. Please contact to the service organization of the belonging for the acquisition of data and obtain the software.

PDF created with pdfFactory Pro trial version www.pdffactory.com

Notes:
Step 1:
Start DFU Application (Device Firmware Upgrade Application) Double click "DFUAPP.exe" File and display as below.
Step 2:
Connect Main P.C.B. to computer with USB cable.

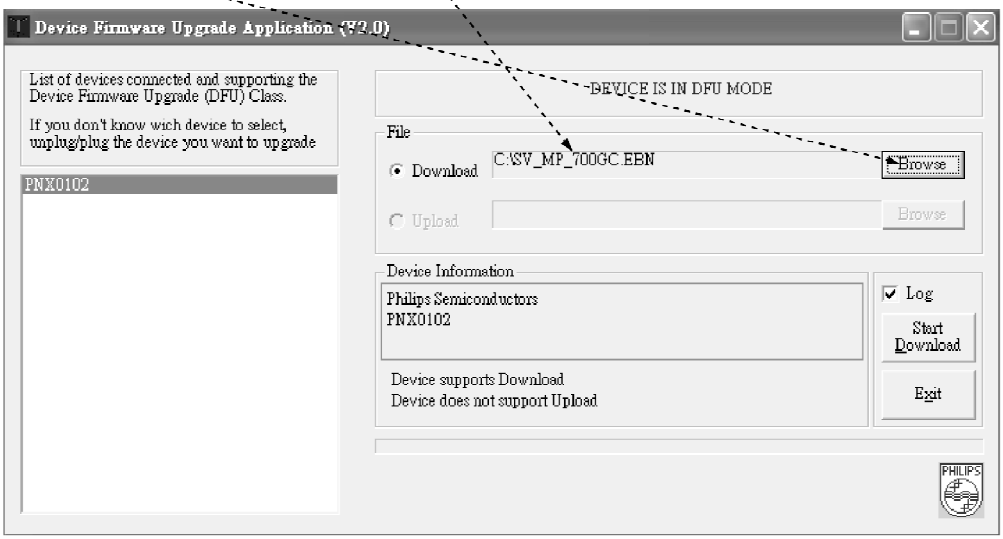
PC Monitor Display



Step 3:
Start DFU Application So that the image as below will appear in PC monitor.
If the image (PNX0102) does not appear, DSP IC can be considered to be deffective.

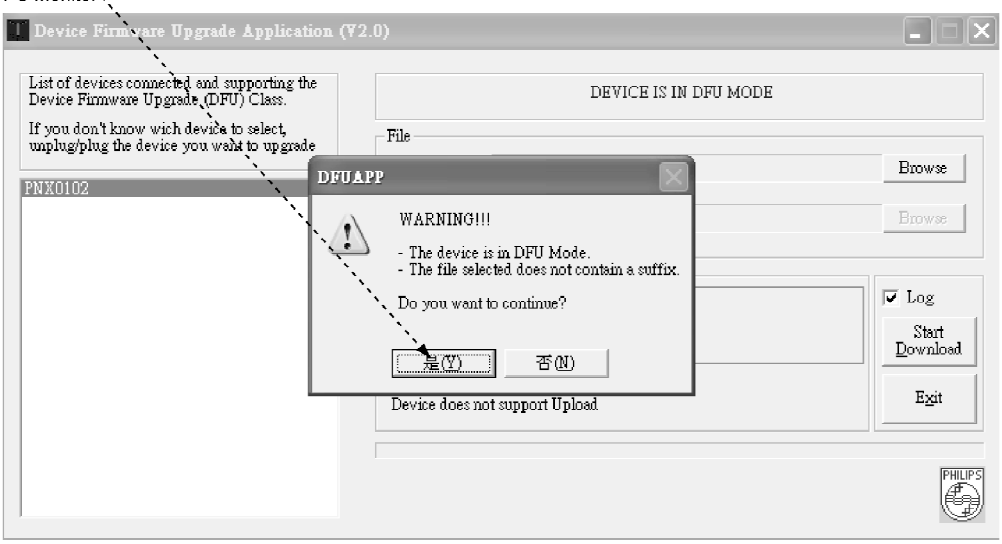
Step 4:
Click "**Browser**" button and then select the "**unit firmware soft**" (SV_MP_700GC.EBN,file)

PC Monitor

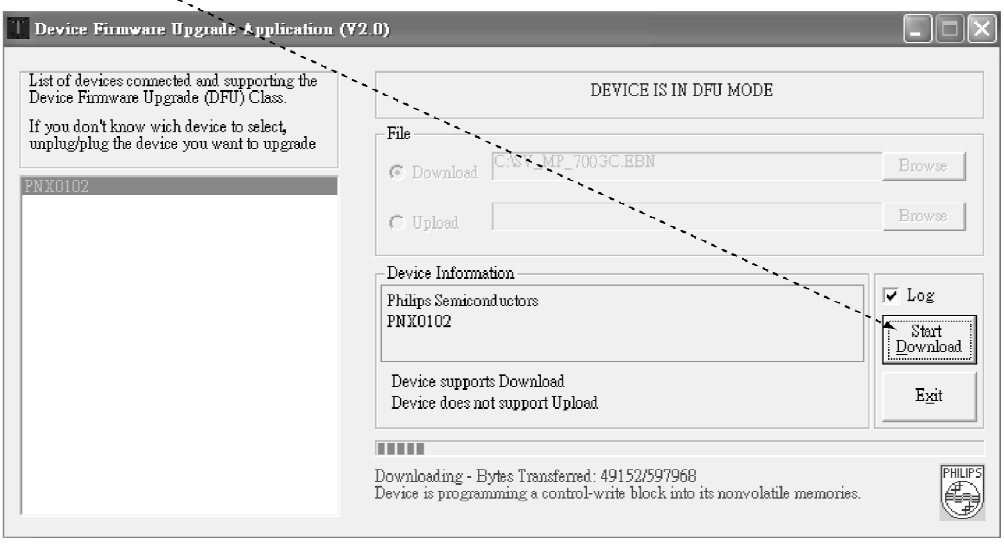


PDF created with pdfFactory Pro trial version www.pdffactory.com

Step 5:
Click [**Yes**] key to continue.
PC Monitor



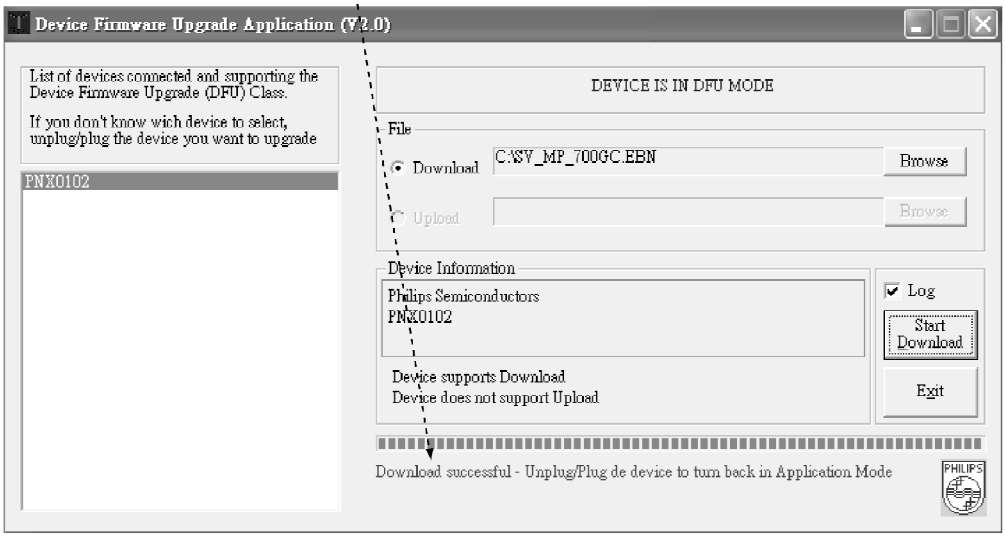
Step 6:
Click **[Start Download]** to Download the "unit firmware soft".
PC Monitor



PDF created with pdfFactory Pro trial version www.pdffactory.com

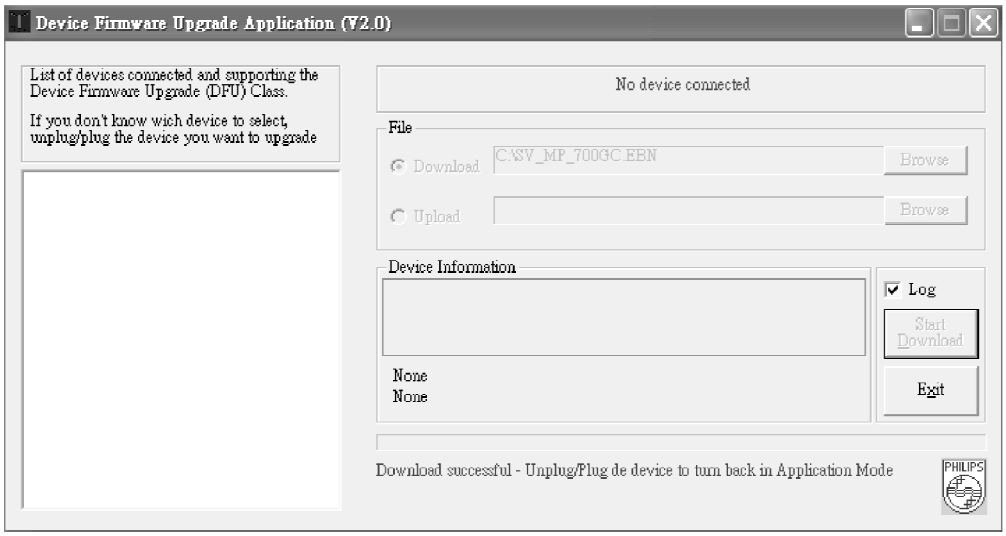
Step 7:
After a few minutes. appear **"Download Sucessful"**.Finally remove the USB cable.

PC Monitor



Step 8:
Remove the jumper wire after checking.

PC Monitor



Step 9:
1.Assemble the set.
2.Turn on the power and connect set to computer with USB cable.
3.Copy the file (SV_MP_700.tbl) to the set.

If you don't copy the file (SV_MP700.tab) to set,some of functions can not be operated normally.

4.Remove the set safely and then disconnect.

10. Troubleshooting

- What to prepare

- A PC that has the exclusive application software (Windows Media Player V9.0) installed. Be sure to check for normal operation of the PC. If other application software is installed in the PC, be sure that this software does not affect the operation of the Windows Media Player V9.0.

PDF created with pdfFactory Pro trial version www.pdffactory.com

- When a user's product is taken in for service, be sure to obtain not only the player and USB reader/writer. Also, try to obtain as much information as possible on the operational environmentofthe user's PC.
<PC's operational environment>
Product name, model number, name of CPU, operation clock, RAM capacity, HD capacity, names of installed software, use of USB hub, and any equipment connected with USB simultaneously.
- Checkpoints before servicing
- Does the battery have enough capacity?
Be aware that manganese batteries do not have sufficient capacitor; their use can result in improper operation.
- Precautions
- A PC sometimes does not recognize the USB reader/writer depending on its conditions (such as competing with the installed software). Therefore, always keep the PC in good condition so that any adaptor can be connected properly.
- There is a possibility that not only the hardware but also software (PC's application software) may be the source of the problem. Therefore, be sure to inspect all potential sources carefully and thoroughly before specifying any causes.

Remarks:

- When the PC does not recognize the USB reader/writer as a removable disc even when the USB reader/writer is connected to the PC, this is an indication of an abnormal USB reader/writer. To confirm this, and to improve the accuracy of your service diagnosis, however, it is recommended that you repeat the check procedure with a new, properly functioning USB reader/writer.
- If the PC does not operate normally, it is not possible to check the problem accurately.
- Be sure to keep the PC working properly according to its operating requirements.
- Windows Media Player (V9.0) (recommended) Free download from: http://www.microsoft.com/downloads/

11. Troubleshooting guide

PDF created with pdfFactory Pro trial version www.pdffactory.com

- Before repairing the unit, make the below check.
- No operation:
- The HOLD function is on.
- The rechargeable battery may be depleted.
- Play time is short after recharging:
- This may occur the first time you recharge the battery or if you haven't used them for a long time.Play time should be restored after a few recharges.
- If play is extremely short even after fully recharging the battery, the battery may have exceeded their life. Rechargeable battery can be recharged approximately 300 times.
- No sound or there is a lot of noise:
- Ensure the earphone plug is inserted firmly.
- Wipe the plug clean with a clean cloth.
- Turn up the volume.
- Keep this unit away from mobile telephones.
- Play doesn't resume from the track where I stopped play:
- This doesn't work if:
You download, record, or delete files,or charge the battery.
The random play mode is on.
- Play doesn't start from the first track:
- The random play mode may be on.
- Play usually resumes from the track where you last stopped play. Use skip to return to the first track.
- The unit stops working:
- Take the rechargeable battery out for about 5 seconds, then reinsert it.
- RESET procedure
1.Slide the HOLD switch to ON.
2.Turn the unit on.
3.Press [-MODE] 3 times.
4.Press [REC/STOP].

All the memories in the unit are deleted.

- The display is too dark or too light:
- Adjust the contrast.
- Play doesn't start immediately:
- Depending on the amount of data in the unit, it may take some time

PDF created with pdfFactory Pro trial version www.pdffactory.com

for play to start after downloading / recording or changing the battery.

- The AC adaptor becomes warm during recharging:
- This is normal.

12. Type Illustration of ICs, Transistors and Diodes

13. Block Diagram

14. Schematic Diagram Notes

Notes:

- Circuit voltage and waveform described herein shall be regarded as reference information when probing defect point, because it may differ from an actual measuring value due to difference of Measuring instrument and its measuring condition and product itself.
  This schematic diagram may be modified at any time with the development of new technology.

S1:	PLAY / STOP switch
S2:	FF switch
S3:	REW switch
S4:	Volume up switch (VOL +)
S5:	Volume down switch (VOL -)
S6:	REC switch
S7:	MODE switch
S8:	HOLD switch (HOLD)

- The supply part number is described alone in the replacement parts list.
- Voltage from negative terminal of battery.
  ( )...MP3 position, [ ]...FM position.
  No mark...MP3 AND FM position.
- Voltage and signal line / : Positive voltage line /
  : FM RF signal line / : Audio signal line / : Mp3 signal line / : REC signal line /
- Important safety notice:
  Components identified by ⚠ mark have special characteristics

PDF created with pdfFactory Pro trial version www.pdffactory.com

important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
When replacing any of components, be sure to use only manufacturers specified parts shown in the parts list.

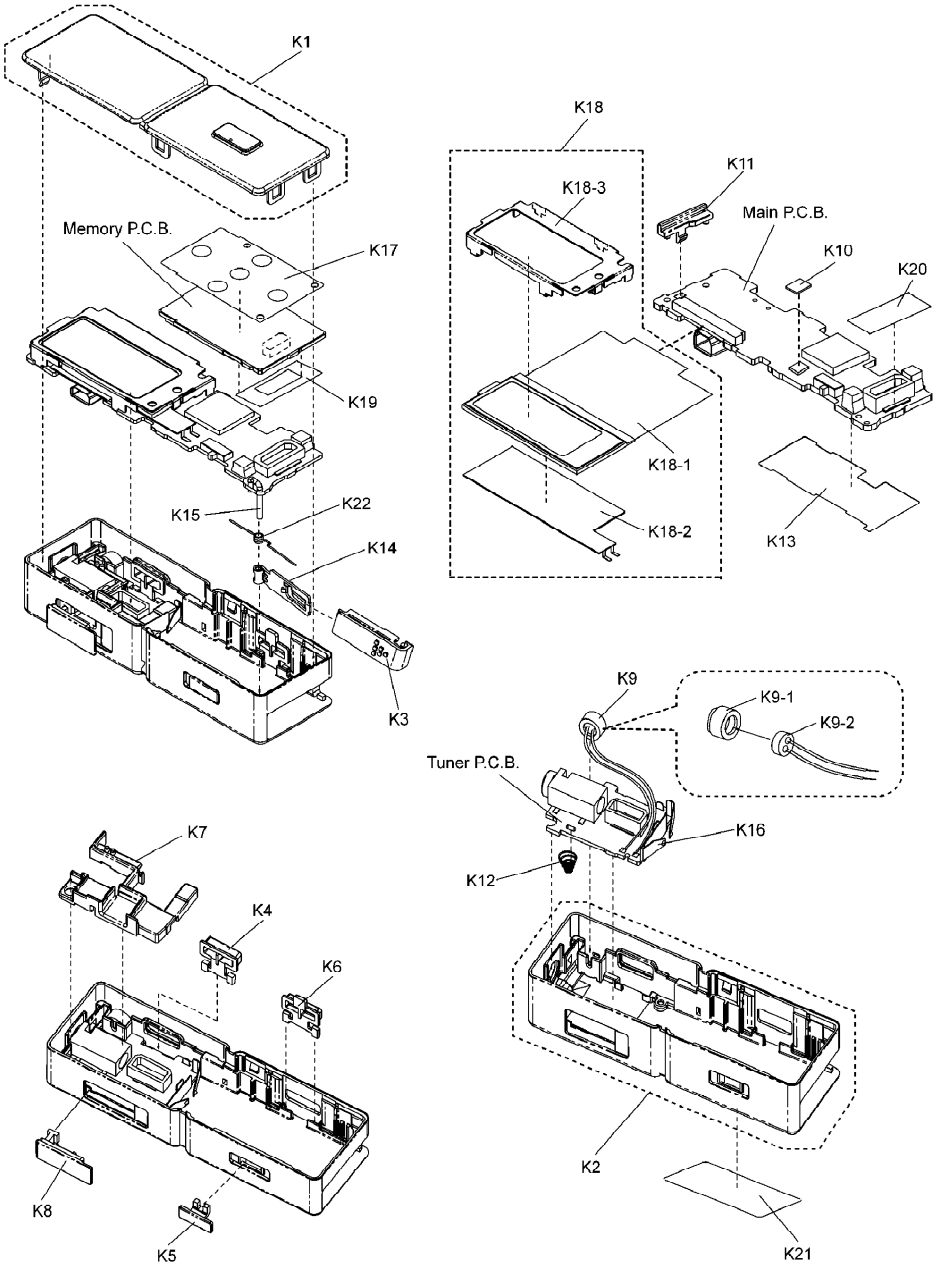
- Caution!
IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.
Cover the parts boxes made of plastics with aluminum foil.
Ground the soldering iron.
Put a conductive mat on the work table.
Do not touch the legs of IC or LSI with the fingers directly.

15. Schematic Diagram

16. Printed Circuit Board Diagram

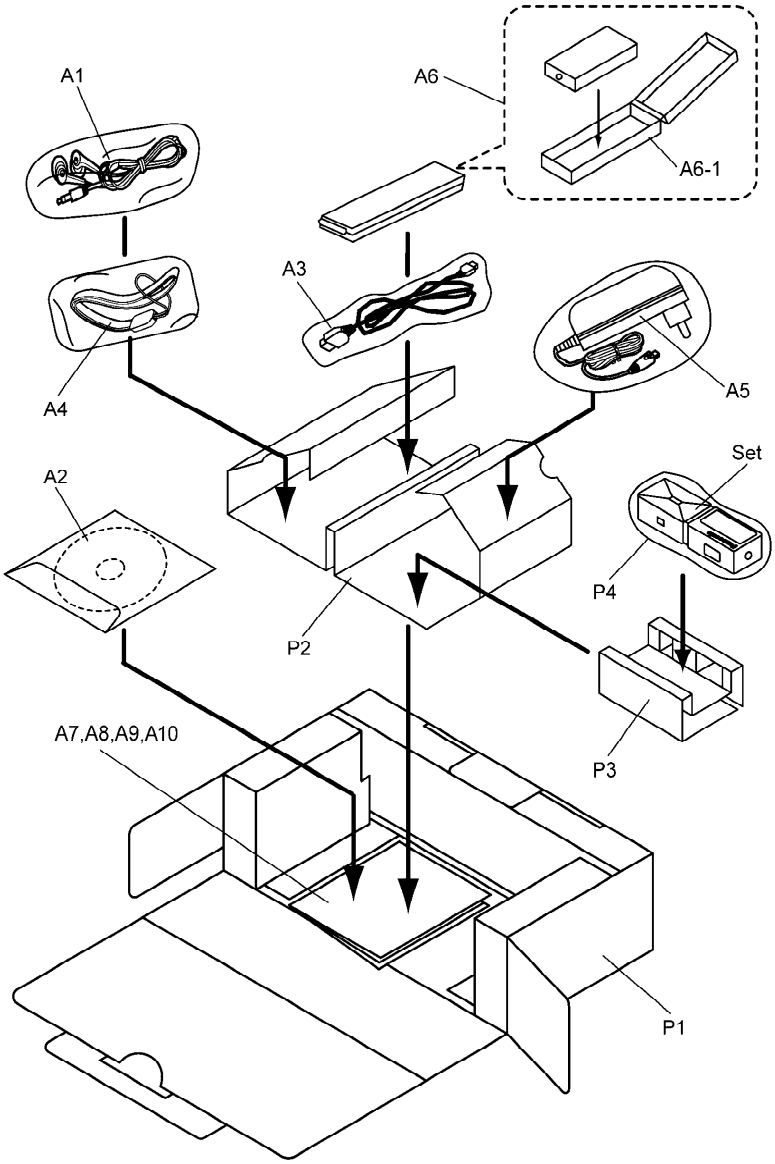
17. Cabinet Parts Location

PDF created with pdfFactory Pro trial version www.pdffactory.com



18. Packaging

PDF created with pdfFactory Pro trial version www.pdffactory.com



19. Replacement Parts List

Notes:

- Important safety notice:

Components identified by ⚠ mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors),

PDF created with pdfFactory Pro trial version www.pdffactory.com

etc. are used.
When replacing any of components, be sure to use only manufactures specified parts shown in the parts list.

1. (T) Indicates parts that are supplied PTW
2. The reference number SA represent the grease tool usea for unit.
3. The marking (RTL) indicates that Retention Time is Limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.

Ref. No.	Part No.	Part Name & Description	Remarks
CABINET PARTS			
K1	ZA1MP720VGKK	UP CHASSIS ASSEMBLY (Black)	(T)
K1	ZA1MP720VGKW	UP CHASSIS ASSEMBLY (White)	(T)
K2	ZA4MP720VGKK	DOWM CABINET ASSEMBLY (Black)	(T)
K2	ZA4MP720VGKW	DOWM CABINET ASSEMBLY (White)	(T)
K3	RKKT0058-K	BATTERY COVER (Black)	(T)
K3	RKKT0059-W	BATTERY COVER (White)	(T)
K4	RGUT0209-1S1	REC BUTTON	(T)
K5	RGVT0092-K	HOLD KNOB (Black)	(T)
K5	RGVT0092-W	HOLD KNOB (White)	(T)
K6	RGUT0208-K	MODE BUTTON (Black)	(T)
K6	RGUT0208-W	MODE BUTTON (White)	(T)
K7	RMNT0099-K	JACK/USB FIX PIECE (Black)	(T)
K7	RMNT0099-W	JACK/USB FIX PIECE (White)	(T)
K8	RXQT0006-1S	USB COVER ASSEMBLY	(T)
K9	ZA3MP500VGKS	MIC PREPARED	(T)
K9-1	RMGT0054	MIC GUM	(T)
K9-2	L0CBZA000002	MICROPHONE	(T)
K10	RMQT0244	EL PIN FIX PIECE	(T)
K11	RMNT0100	LCD FIX PIECE	(T)
K12	RJRT0020	EARTH SPRING	(T)
K13	RMZT0074	PCB SHEET	(T)
K14	RJCT99004-1	BATTERY SPG.	(T)
K15	RJRT0019	SPRING	(T)
K16	RJCT99005	BATTERY SPG.	(T)
K17	RSCT0041	METAL DOME	(T)
K18	ZA5MP500VGKS	LCD PREPARE ASSY	(T)
K18-1	L5DZBDB00001	LCD WITH FPC (30 Pin)	(T)
K18-2	L5GZAXZ00001	EL BOARD	(T)
K18-3	RMNT0098-1	LCD ANGLE	(T)
K19	RMZT0079	PCB SHEET(UP PCB)	(T)
K20	RMZT0078	PCB SHEET(MAIN PCB)	(T)
K21 [GK]	RQLTA0389A	NAME PLATE (Black)	(T)

PDF created with pdfFactory Pro trial version www.pdffactory.com

Ref. No.	Part No.	Part Name & Description	Remarks
K21 [GK]	RQLTA0389	NAME PLATE (White)	(T)
K21 [GH][GN][GC]	RQLTA0391A	NAME PLATE (Black)	(T)
K21 [GH][GN][GC]	RQLTA0391	NAME PLATE (White)	(T)
K21 [GD]	RQLTA0392A	NAME PLATE (Black)	(T)
K21 [GD]	RQLTA0392	NAME PLATE (White)	(T)
K22	RMBT0057	BATT. COVER SPG.	(T)
ACCESSORIES			
A1	L0BAB0000188	INNERPHONE	(T)
A2	RFET0002	USB2.0 DRIVER DISC PIECE	(T)
A3	K1HA05AD0003	USB CABLE	(T)
A4	RFAT0006-Q	NACK STRAP	(T)
A5 [GK]	N0JECD000001	AC ADAPTOR ⚠	(T)
A5 [GD]	N0JZCD000002	AC ADAPTOR ⚠	(T)
A5 [GC]	N0JZCD000003	AC ADAPTOR ⚠	(T)
A5 [GH]	N0JZCD000004	AC ADAPTOR ⚠	(T)
A5 [GN]	N0JZCD000005	AC ADAPTOR ⚠	(T)
A6	ZBRP-BP65HE	RECHARGEABLE BATT ASSEMBLY	(T)
A6-1	RFCT0005-H	BATT CASE	(T)
A7 [GK][GC][GH]	RQTT0661-G	INSTRUCTION BOOK	(T)
A7 [GN]	RQTT0664-P	INSTRUCTION BOOK	(T)
A7 [GD]	RQTT0690-Z	INSTRUCTION BOOK	(T)
A8 [GK][GC]	RQTT0662-K	INSTRUCTION BOOK	(T)
A8 [GH]	RQTT0709-K	INSTRUCTION BOOK	(T)
A9 [GC]	RQTT0663-R	INSTRUCTION BOOK	(T)
A10 [GC]	RQTT0720-R	INSTRUCTION BOOK	(T)
PACKING MATERIALS			
P1 [GC]	RPKT0796-1	DECORATION BOX (Black)	(T)
P1 [GC]	RPKT0898-1	DECORATION BOX (White)	(T)
P1 [GK]	RPKT0797	DECORATION BOX (Black)	(T)
P1 [GK]	RPKT0900	DECORATION BOX (White)	(T)
P1 [GD]	RPKT0798-1	DECORATION BOX (Black)	(T)
P1 [GD]	RPKT0901-1	DECORATION BOX (White)	(T)
P1 [GN]	RPKT0799-1	DECORATION BOX (Black)	(T)
P1 [GN]	RPKT0902-1	DECORATION BOX (White)	(T)
P1 [GH]	RPKT0832	DECORATION BOX (Black)	(T)
P1 [GH]	RPKT0899	DECORATION BOX (White)	(T)
P2 [GC][GK][GD][GN]	RPNT0554	PAD	(T)
P2 [GH]	RPNT0556	PAD	(T)
P3 [GC][GK][GD][GN]	RPNT0555	PAD	(T)
P3 [GH]	RPNT0557	PAD	(T)
P4	RPFT0081	PE BAG	(T)
P.C.B.			
PCB1	P1MP720VGK	MAIN BOARD	(T)
PCB2	P2MP720VGK	MEMORY BOARD	(T)
PCB3	P3MP720VGK	TUNER BOARD	(T)
PCB4	RFKZ0286	24 PIN TEST BOARD	(T)
PCB5	RFKZ0287	30 PIN TEST BOARD	(T)
INTEGRATED CIRCUITS TRANSISTORS AND DIODES			
IC1	C1BB00000997	FM TUNER IC (40 PIN)	(T)
IC2	C3FBVC000001	512MB FLASH MEMORY	(T)
IC3	C2HBZG000008	DSP IC(BGA 180 PIN)	(T)
IC4	C0HBZ0000045	I.C(D8P)EL DRIVER	(T)

PDF created with pdfFactory Pro trial version www.pdffactory.com

Ref. No.	Part No.	Part Name & Description	Remarks
IC6	C0CBCAC00288	IC	(T)
IC7	C0DBAGZ00021	DC/DC IC(D5P)	(T)
IC8	C0CBCAC00288	IC	(T)
IC9	C0EBC0000204	1.6V RESET IC (4p)	(T)
IC10	C0CBCAC00288	IC	(T)
IC301	C1BB00000934	I.C	(T)
Q2	2SA1774STL	TRANSISTOR	(T)
Q3	B1ADMD000012	TRANSISTOR	(T)
Q7	UMX1NTN	TRANSISTOR (DIGITAL)	(T)
Q8	B1CFMC000005	FET	(T)
Q9	B1MBACA00011	FET ARRAY	(T)
Q302	UN9210JTX	TRANSISTOR	(T)
D1	B0CCAA000001	LOW-VOLTAGE VARIABLE CAP	(T)
D2	B0CCAA000001	LOW-VOLTAGE VARIABLE CAP	(T)
D3	MA3J14700L	DIODE	(T)
D5	B0JDDB000002	DIODE	(T)
D6	MA2Z74800L	DIODE	(T)
D7	B0ACEM000008	DIODE	(T)
D8	B0ZBZ0000070	VARISTOR C.V.19V	(T)
D9	MA2Z74800L	DIODE	(T)
COILS AND TRANSFORMERS			
L1	G1CR12JA0037	CHIP INDUCTOR	(T)
L2	J0JBC0000044	CHIP COIL	(T)
L3	G1C33NJA0037	CHIP INDUCTOR	(T)
L4	G1C33NJA0037	CHIP INDUCTOR	(T)
L5	J0JBC0000044	CHIP COIL	(T)
L6	J0JBC0000044	CHIP COIL	(T)
L7	G1A220C00006	POWER INDUCTOR	(T)
L8	G1A220C00006	POWER INDUCTOR	(T)
L10	G1A220C00006	POWER INDUCTOR	(T)
L11	J0JBC0000044	CHIP COIL	(T)
L12	J0JBC0000044	CHIP COIL	(T)
L13	J0JBC0000044	CHIP COIL	(T)
L14	J0JBC0000044	CHIP COIL	(T)
L15	J0JBC0000044	CHIP COIL	(T)
L16	J0JBC0000044	CHIP COIL	(T)
L19	J0JBC0000044	CHIP COIL	(T)
L20	J0JBC0000044	CHIP COIL	(T)
L21	J0JBC0000044	CHIP COIL	(T)
L23	J0JBC0000044	CHIP COIL	(T)
L25	J0JBC0000044	CHIP COIL	(T)
L26	J0JCC0000077	CHIP COIL	(T)
L27	J0JCC0000077	CHIP COIL	(T)
L28	LQH32MN221J	COIL	(T)
L30	BK1608HS102	FERRITE BEAD	(T)
L31	D0GAR00JA020	CHIP COIL	(T)
L33	BK1608HS102	FERRITE BEAD	(T)
L34	BK1608HS102	FERRITE BEAD	(T)
L35	BK1608HS102	FERRITE BEAD	(T)
L37	J0JGC0000021	FERRITE BEAD	(T)
L38	BK1608HS102	FERRITE BEAD	(T)
L39	BK1608HS102	FERRITE BEAD	(T)
L41	BK1608HS102	FERRITE BEAD	(T)
L42	BK1608HS102	FERRITE BEAD	(T)

PDF created with pdfFactory Pro trial version www.pdffactory.com

Ref. No.	Part No.	Part Name & Description	Remarks
L43	J0JBC0000044	CHIP COIL	(T)
L201	J0JBC0000044	CHIP COIL	(T)
L202	J0JBC0000044	CHIP COIL	(T)
L302	J0JBC0000044	CHIP COIL	(T)
L303	G1C101MA0072	PEAKING COIL	(T)
L304	G1C101MA0072	PEAKING COIL	(T)
L305	G1C101MA0099	PEAKING COIL	(T)
L306	G1C101MA0099	PEAKING COIL	(T)
IC PROCTECTOR			
ICP1	K5H5012A0025	PROTECTOR ⚠	(T)
ICP2	K5H5012A0025	PROTECTOR ⚠	(T)
SWITCHES			
SW6	K0H1BB000068	SWITCH	(T)
SW7	K0H1BB000068	SWITCH	(T)
SW8	K0D112B00067	SLIDE SWITCH	(T)
JACK			
JK301	K2HC103E0026	M3.5 JACK GARY	(T)
CRYSTAL			
X1	H0J480500015	CRYSTAL(13MHZ)	(T)
X2	H0J120500034	CRYSTAL 12MHz	(T)
SOCKET			
CN1	K1KB30A00058	30 PIN CONNECTOR (SOCKET)	(T)
CN2	K1KB24A00044	24 PIN CONNECTOR (SOCKET)	(T)
CN3	K1FB108E0007	USB SOCKET	(T)
CN4	K1MN30B00124	LCD FPC CONNECTOR (30 PIN	(T)
CN5	K1KA30A00216	30 PIN CONNECTOR (HEADER)	(T)
CN6	K1KB24A00045	24 PIN CONNECTOR (HEADER)	(T)
RESISTORS			
R1	D0GAR00JA020	CHIP RESISTOR	(T)
R2	D0GAR00JA020	CHIP RESISTOR	(T)
R3	D0GA100JA020	CHIP RESISTOR	(T)
R4	D0GA183JA020	CHIP RESISTOR	(T)
R5	D0GAR00JA020	CHIP RESISTOR	(T)
R6	D0GA104JA020	CHIP RESISTOR	(T)
R7	D0GA103JA020	CHIP RESISTOR	(T)
R8	D1H42202A014	CHIP RESISTOR	(T)
R11	D0GA332JA020	CHIP RESISTOR	(T)
R12	D0GA472JA020	CHIP RESISTOR	(T)
R13	D0GA682JA020	CHIP RESISTOR	(T)
R14	D0GA103JA020	CHIP RESISTOR	(T)
R15	D0GA223JA020	CHIP RESISTOR	(T)
R16	D0GA683JA020	CHIP RESISTOR	(T)
R18	D0GAR00JA020	CHIP RESISTOR	(T)
R19	D1H41052A014	CHIP RESISTOR	(T)
R20	D0GD1R5JA017	CHIP RESISTOR	(T)
R21	D0GA681JA020	CHIP RESISTOR	(T)
R22	D0GA333JA020	CHIP RESISTOR	(T)
R23	D0GF270JA029	CHIP RESISTOR	(T)
R25	D0GF270JA029	CHIP RESISTOR	(T)
R27	D1H41042A014	CHIP RESISTOR	(T)
R30	D0GA183JA020	CHIP RESISTOR	(T)
R31	D1H41032A014	CHIP RESISTOR	(T)
R32	D0GAR00JA020	CHIP RESISTOR	(T)

PDF created with pdfFactory Pro trial version www.pdffactory.com

Ref. No.	Part No.	Part Name & Description	Remarks
R34	D0GA104JA020	CHIP RESISTOR	(T)
R39	D1H41042A014	CHIP RESISTOR	(T)
R40	D0GA103JA020	CHIP RESISTOR	(T)
R41	D0GA104JA020	CHIP RESISTOR	(T)
R43	D0GA104JA020	CHIP RESISTOR	(T)
R51	D0GA100JA020	CHIP RESISTOR	(T)
R55	D0GA472JA020	CHIP RESISTOR	(T)
R56	D0GA104JA020	CHIP RESISTOR	(T)
R57	D0GA102JA020	CHIP RESISTOR	(T)
R58	D0GA222JA020	CHIP RESISTOR	(T)
R65	D0GA104JA020	CHIP RESISTOR	(T)
R66	D0GA472JA020	CHIP RESISTOR	(T)
R68	D0GA472JA020	CHIP RESISTOR	(T)
R69	D0GA184JA020	CHIP RESISTOR	(T)
R70	D0GA223JA020	CHIP RESISTOR	(T)
R71	D0GA334JA020	CHIP RESISTOR	(T)
R73	D0GAR00JA020	CHIP RESISTOR	(T)
R75	D0GA152JA020	CHIP RESISTOR	(T)
R77	D0GA332JA020	CHIP RESISTOR	(T)
R201	D0GA123JA020	CHIP RESISTOR	(T)
R202	D0GA104JA020	CHIP RESISTOR	(T)
R203	D0GA152JA020	CHIP RESISTOR	(T)
R204	D0GA105JA020	CHIP RESISTOR	(T)
R205	D0GA184JA020	CHIP RESISTOR	(T)
R301	D1H41042A014	CHIP RESISTOR	(T)
R303	D0GA474JA020	CHIP RESISTOR	(T)
R304	D0GA104JA020	CHIP RESISTOR	(T)
R307	D0GA100JA020	CHIP RESISTOR	(T)
R308	D0GA100JA020	CHIP RESISTOR	(T)
R309	D0GB470JA008	CHIP RESISTOR	(T)
R310	D0GB102JA008	CHIP RESISTOR	(T)
R311	D0GB470JA008	CHIP RESISTOR	(T)
R312	D0GB470JA008	CHIP RESISTOR	(T)
CHIP JUMPERS			
J5	D0GBR00JA008	CHIP RESISTOR	(T)
J11	D0GAR00JA020	CHIP RESISTOR	(T)
J13	D0GAR00JA020	CHIP RESISTOR	(T)
J14	D0GAR00JA020	CHIP RESISTOR	(T)
J201	D0GAR00JA020	CHIP RESISTOR	(T)
J302	D0GBR00JA008	CHIP RESISTOR	(T)
CAPACITORS			
C1	K105BJ104KVC	CHIP CAPACITOR	(T)
C2	F3E0G226A002	TANTALUM CAP.	(T)
C3	F1G1C103A004	CHIP CAPACITOR	(T)
C4	F1G1E472A056	CHIP CAPACITOR	(T)
C5	F1G1C223A004	CHIP CAPACITOR	(T)
C6	ECUE1H270JCQ	CHIP CAPACITOR	(T)
C7	F1G1H470A451	CHIP CAPACITOR	(T)
C8	ECUENA473KBQ	CHIP CAPACITOR	(T)
C9	ECUVNA105ZFV	CHIP CAPACITOR	(T)
C10	ECUENA473KBQ	CHIP CAPACITOR	(T)
C11	ECUENA473KBQ	CHIP CAPACITOR	(T)
C12	ECUENA473KBQ	CHIP CAPACITOR	(T)
C13	ECUENC333KBQ	CHIP CAPACITOR	(T)

PDF created with pdfFactory Pro trial version www.pdffactory.com

Ref. No.	Part No.	Part Name & Description	Remarks
C14	F1G1C223A004	CHIP CAPACITOR	(T)
C15	F1G1C223A004	CHIP CAPACITOR	(T)
C16	ECUVNA105ZFV	CHIP CAPACITOR	(T)
C17	ECUENC333KBQ	CHIP CAPACITOR	(T)
C18	ECUE0J224KBQ	CHIP CAPACITOR	(T)
C19	ECUE0J224KBQ	CHIP CAPACITOR	(T)
C20	F3G0G1070001	TANTALUM CAP.	(T)
C21	ECUE1H100DCQ	CHIP CAPACITOR	(T)
C22	F1G1C223A004	CHIP CAPACITOR	(T)
C23	ECUE1H102KBQ	CHIP CAPACITOR	(T)
C24	F1G1C223A004	CHIP CAPACITOR	(T)
C25	F3E0G226A002	TANTALUM CAP.	(T)
C26	K105BJ104KVC	CHIP CAPACITOR	(T)
C28	K105BJ104KVC	CHIP CAPACITOR	(T)
C29	F3E0G226A002	TANTALUM CAP.	(T)
C31	K105BJ104KVC	CHIP CAPACITOR	(T)
C32	K105BJ104KVC	CHIP CAPACITOR	(T)
C33	K105BJ104KVC	CHIP CAPACITOR	(T)
C35	K105BJ104KVC	CHIP CAPACITOR	(T)
C36	K105BJ104KVC	CHIP CAPACITOR	(T)
C37	F1G1H180A451	CHIP CAPACITOR	(T)
C38	ECST0JZ106R	TANTALUM CAP.	(T)
C39	K105BJ104KVC	CHIP CAPACITOR	(T)
C40	K105BJ104KVC	CHIP CAPACITOR	(T)
C41	F1G1H180A451	CHIP CAPACITOR	(T)
C42	K105BJ104KVC	CHIP CAPACITOR	(T)
C43	K105BJ104KVC	CHIP CAPACITOR	(T)
C44	K105BJ104KVC	CHIP CAPACITOR	(T)
C45	K105BJ104KVC	CHIP CAPACITOR	(T)
C46	K105BJ104KVC	CHIP CAPACITOR	(T)
C50	K105BJ104KVC	CHIP CAPACITOR	(T)
C51	RCST0GY686RU	TANTALUM CAP.	(T)
C55	F3E0G226A002	TANTALUM CAP.	(T)
C56	ECUENA473KBQ	CHIP CAPACITOR	(T)
C57	ECUVNA105ZFV	CHIP CAPACITOR	(T)
C58	ECUVNA105ZFV	CHIP CAPACITOR	(T)
C59	ECUV1A474KBV	CHIP CAPACITOR	(T)
C60	K105BJ104KVC	CHIP CAPACITOR	(T)
C61	K105BJ104KVC	CHIP CAPACITOR	(T)
C62	K105BJ104KVC	CHIP CAPACITOR	(T)
C63	K105BJ104KVC	CHIP CAPACITOR	(T)
C64	K105BJ104KVC	CHIP CAPACITOR	(T)
C67	ECUE1H181KBQ	CHIP CAPACITOR	(T)
C68	ECUE1H391KBQ	CHIP CAPACITOR	(T)
C70	F3G0G1070001	TANTALUM CAP.	(T)
C71	ECUV4H104ZFM	CHIP CAPACITOR	(T)
C72	ECUVNC473KBV	CHIP CAPACITOR	(T)
C73	ECUE1H101KBQ	CHIP CAPACITOR	(T)
C86	K105BJ104KVC	CHIP CAPACITOR	(T)
C87	ECUV1E103KBV	CHIP CAPACITOR	(T)
C90	ECUVNA105ZFV	CHIP CAPACITOR	(T)
C91	F1G0J4740002	CHIP CAPACITOR	(T)
C92	F1G0J4740002	CHIP CAPACITOR	(T)
C95	PSLB30G107M	TANTALUM CAP.	(T)

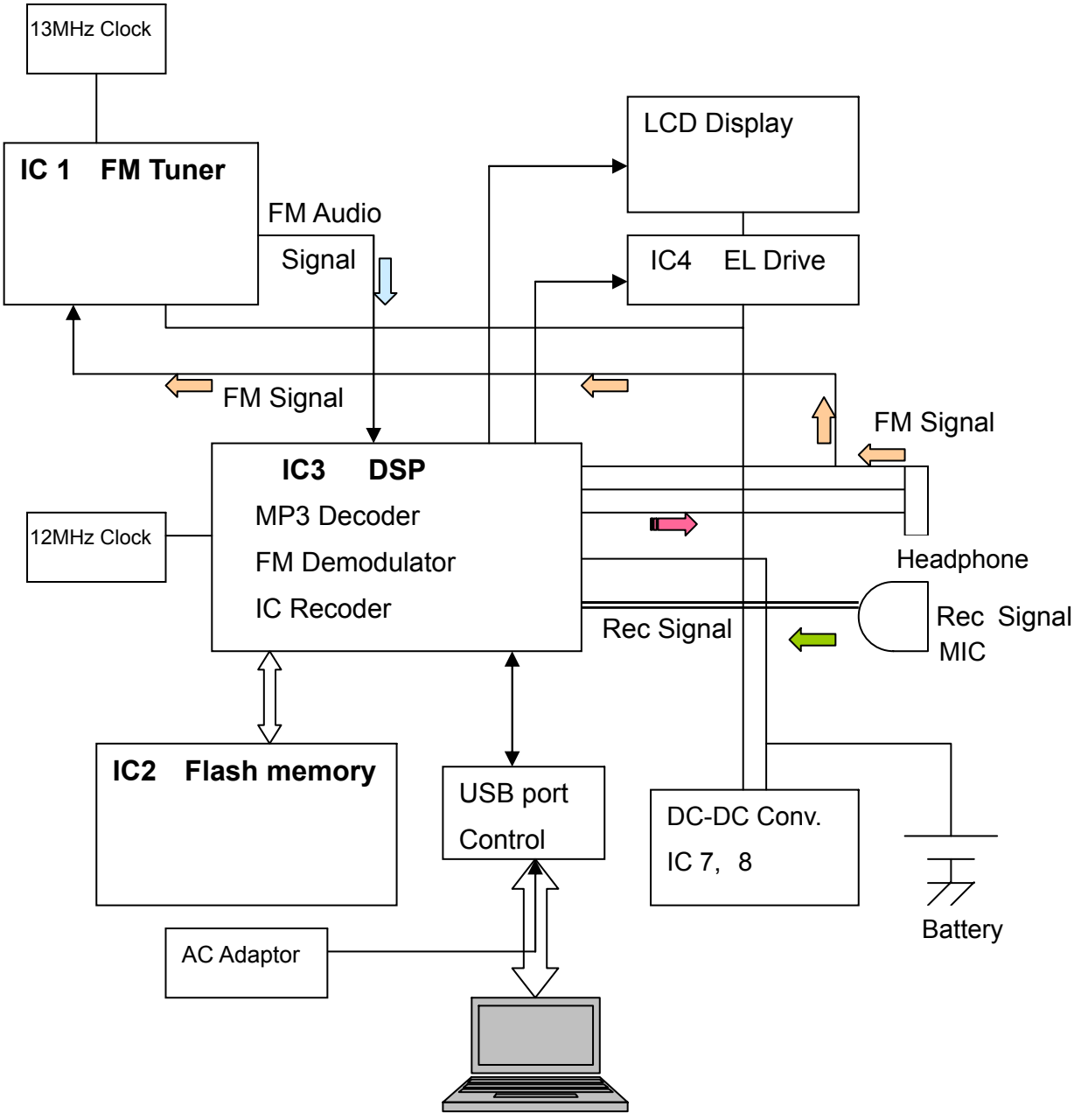
PDF created with pdfFactory Pro trial version www.pdffactory.com

Ref. No.	Part No.	Part Name & Description	Remarks
C96	K105BJ104KVC	CHIP CAPACITOR	(T)
C97	F1G1C103A004	CHIP CAPACITOR	(T)
C99	F3E0G226A002	TANTALUM CAP.	(T)
C100	ECUVNA105ZFV	CHIP CAPACITOR	(T)
C101	K105BJ104KVC	CHIP CAPACITOR	(T)
C103	ECUE1H391KBQ	CHIP CAPACITOR	(T)
C104	K105BJ104KVC	CHIP CAPACITOR	(T)
C105	ECUE1H331KBQ	CHIP CAPACITOR	(T)
C106	ECUE0J224KBQ	CHIP CAPACITOR	(T)
C107	F3F0G106A012	TANTALUM CAP.	(T)
C108	K105BJ104KVC	CHIP CAPACITOR	(T)
C110	K105BJ104KVC	CHIP CAPACITOR	(T)
C113	K105BJ104KVC	CHIP CAPACITOR	(T)
C115	K105BJ104KVC	CHIP CAPACITOR	(T)
C201	ECST0JZ106R	TANTALUM CAP.	(T)
C202	K105BJ104KVC	CHIP CAPACITOR	(T)
C203	K105BJ104KVC	CHIP CAPACITOR	(T)
C204	ECST0JZ106R	TANTALUM CAP.	(T)
C205	ECUE1H060DCQ	CHIP CAPACITOR	(T)
C206	ECUE1H060DCQ	CHIP CAPACITOR	(T)
C301	ECST0JZ106R	TANTALUM CAP.	(T)
C303	F1H1C104A071	CHIP CAPACITOR	(T)
C304	ECUVNA105ZFV	CHIP CAPACITOR	(T)
C305	F3H0G107A062	TANTALUM CAP.	(T)
C306	F3H0G107A062	TANTALUM CAP.	(T)
C307	F3H0G107A062	TANTALUM CAP.	(T)
C308	F3H0G107A062	TANTALUM CAP.	(T)
C309	F1G0J4740002	CHIP CAPACITOR	(T)
C310	F1G0J4740002	CHIP CAPACITOR	(T)
C312	F3E0G226A002	TANTALUM CAP.	(T)
C313	K105BJ104KVC	CHIP CAPACITOR	(T)
C314	ECUE0J224KBQ	CHIP CAPACITOR	(T)
C315	ECUE0J224KBQ	CHIP CAPACITOR	(T)

Printed in Taiwan / T0503 TSAI

PDF created with pdfFactory Pro trial version www.pdffactory.com

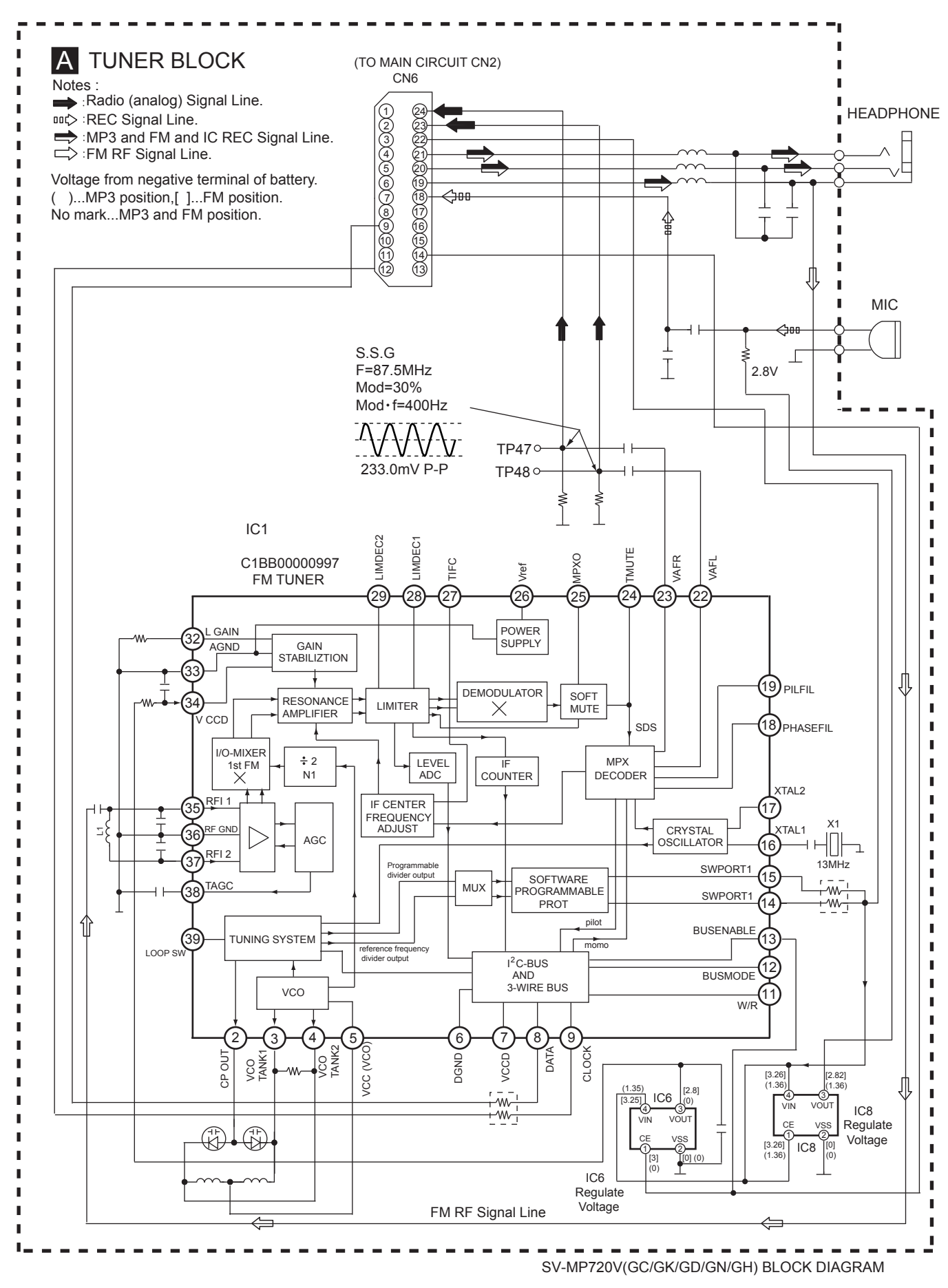
Overall Block Diagram



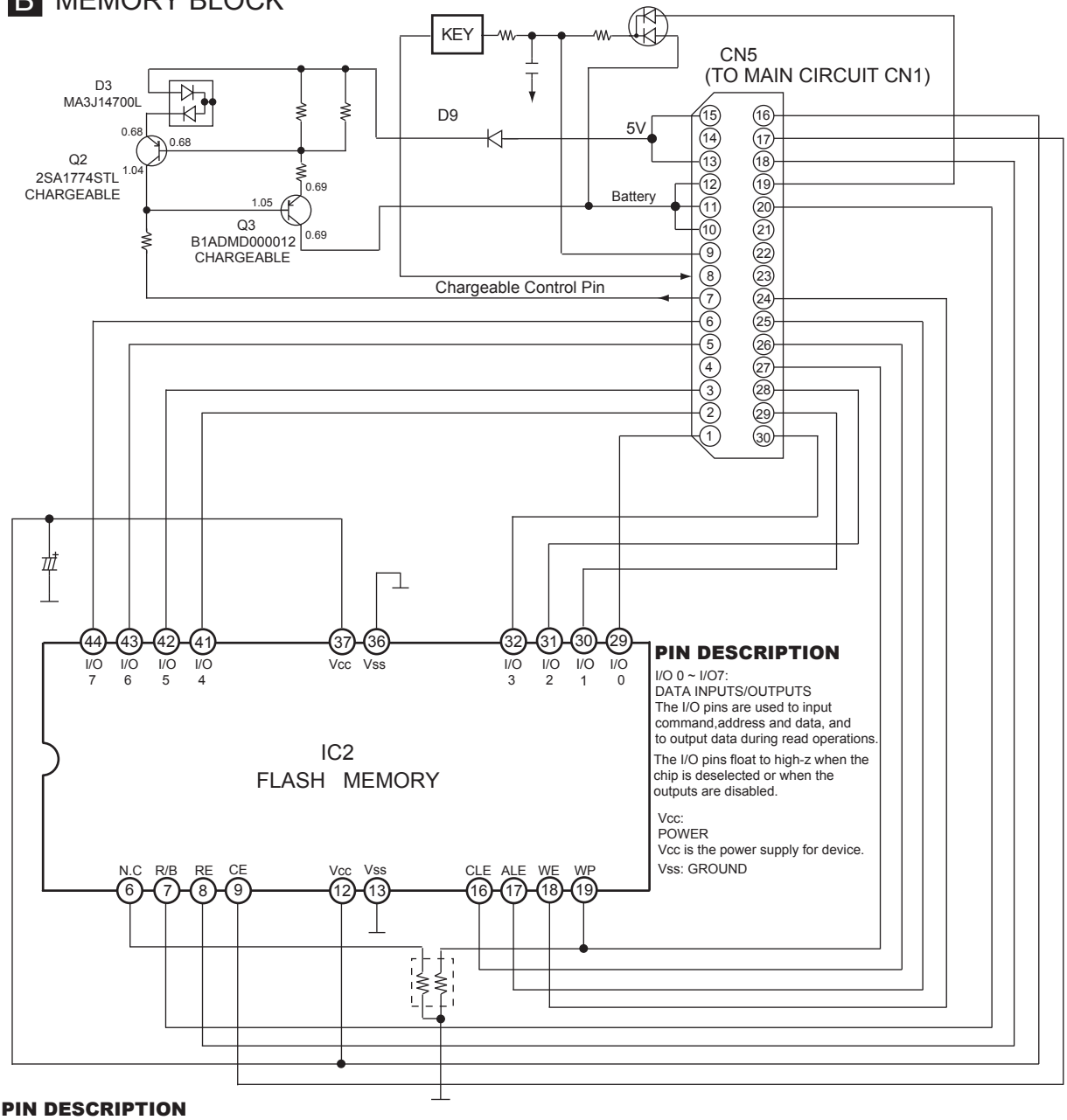
A TUNER BLOCK

Notes :
- :Radio (analog) Signal Line.
- :REC Signal Line.
- :MP3 and FM and IC REC Signal Line.
- :FM RF Signal Line.

Voltage from negative terminal of battery.
( )...MP3 position,[ ]...FM position.
No mark...MP3 and FM position.



B MEMORY BLOCK



PIN DESCRIPTION

I/O 0 ~ I/O7:
DATA INPUTS/OUTPUTS
The I/O pins are used to input command,address and data, and to output data during read operations.

The I/O pins float to high-z when the chip is deselected or when the outputs are disabled.

Vcc:
POWER
Vcc is the power supply for device.

Vss: GROUND

PIN DESCRIPTION

R/B: READY/BUSY OUTPUT
The R/B output indicates the status of the device operation.When low, it indicates that a program, erase or random read operation is in process and returns to high state upon completion.It is an open drain output and does not float to high-z condition when the chip is deselected or when outputs are disabled.

RE: READ ENABLE
The RE input is the serial data-out control, and when active drives the data onto the I/O bus. Data is valid tREA after the falling edge of RE which also increments the internal column address counter by one.

CE: CHIP ENABLE
The CE input is the device selection control. When the device is in the Busy state, CE high is ignored, and the device does not return to standby mode in program or erase opertion. Regarding CE control during read operation, refer to "Page read" section of Device operation.

CLE: COMMAND LATCH ENABLE
The CLE input controls the activating path for commands sent to the command register. When active high, commands are latched into the command register through the I/O ports on the rising edge of the WE signal.

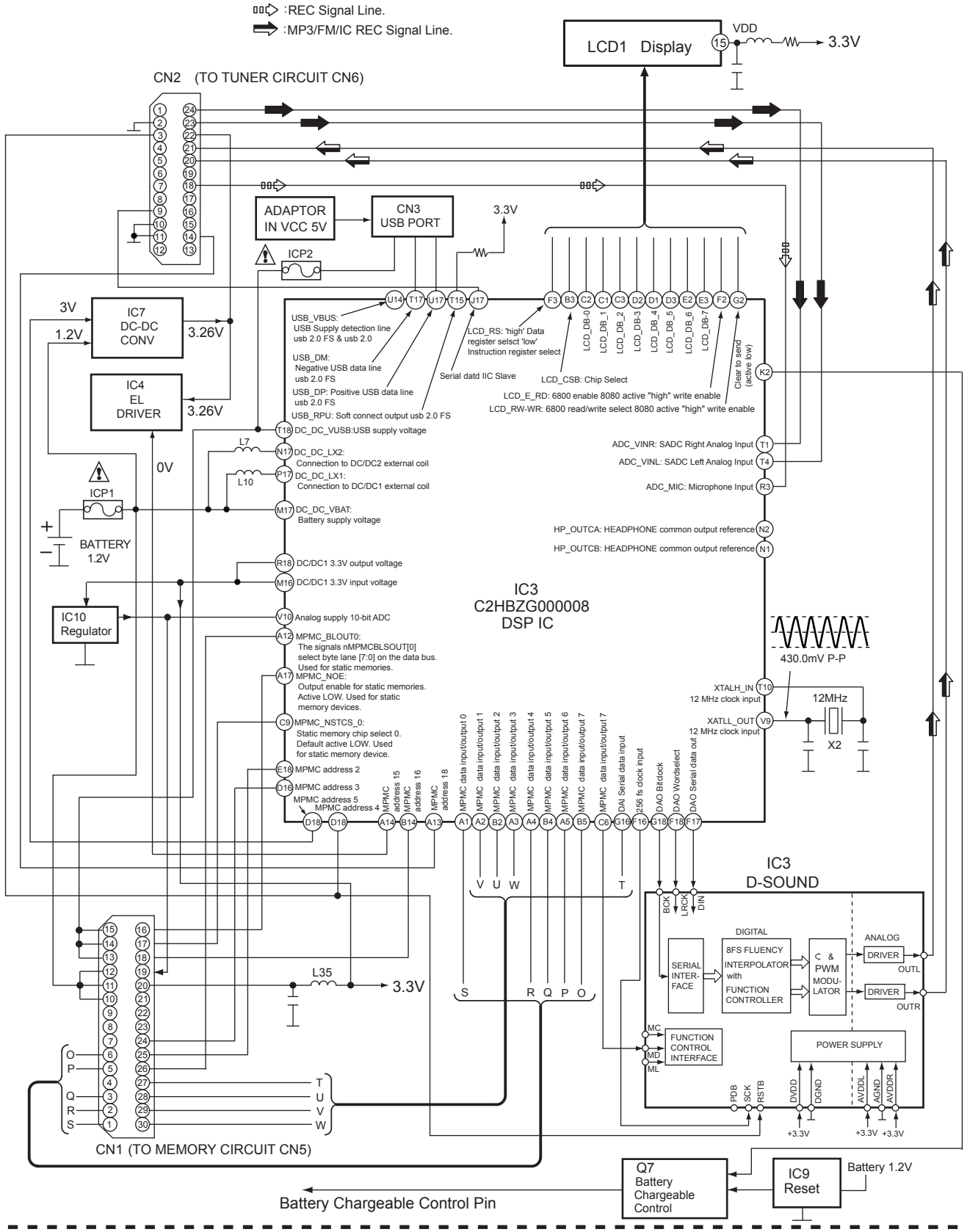
ALE: ADDRESS LATCH ENABLE
The ALE input controls the activating path for address to the internal address registers.Addresses are latched on the rising edge of WE with ALE high.

WE: WRITE ENABLE
The WE input controls writes to the I/O port. Commands, address and data are latched on the rising edge of the WE pulse.

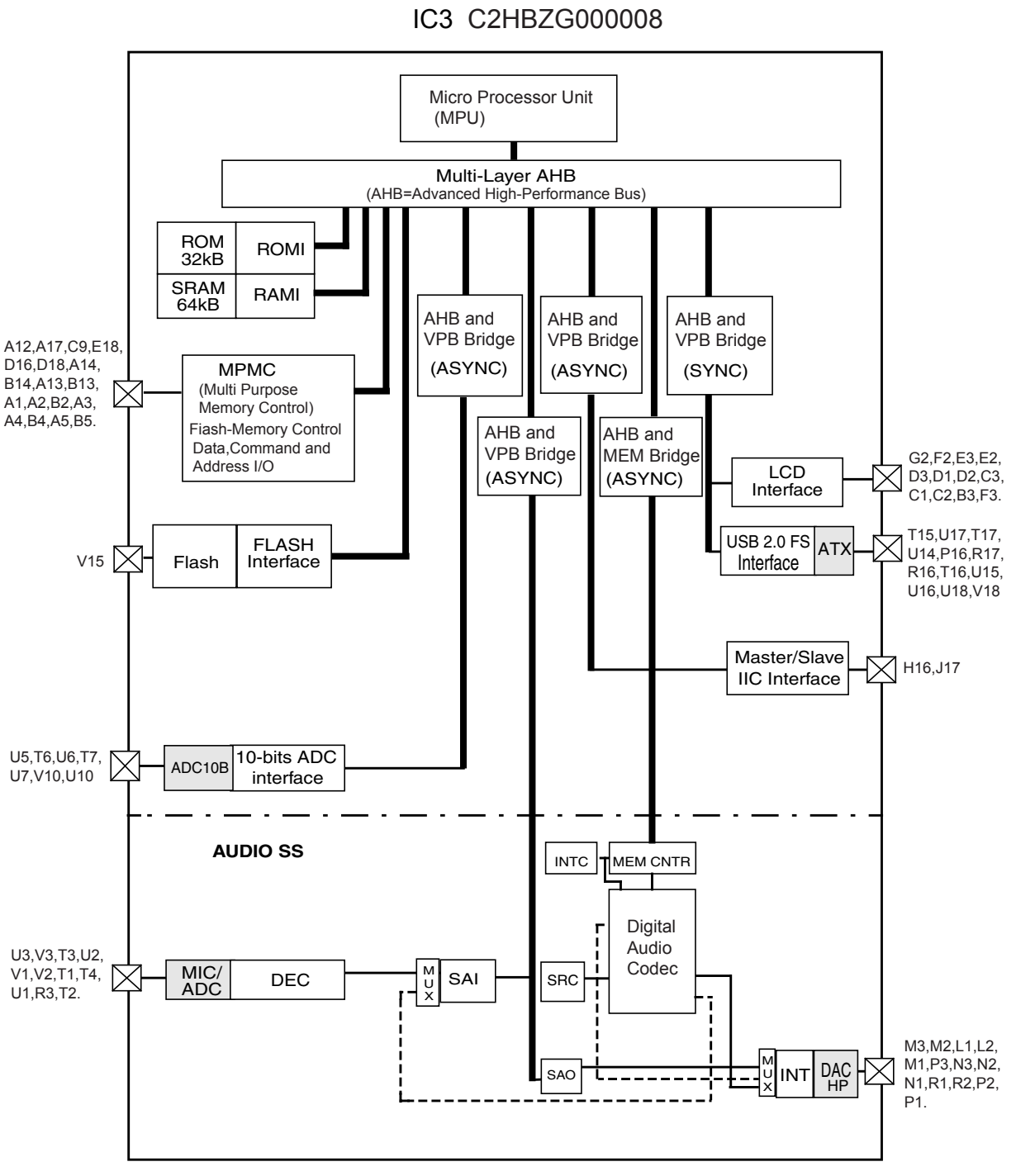
WP: WRITE PROTECT
The WP pin provides inadvertent write/erase protection during power transitions. The internal high voltage generator is reset when the WP pin is active low.

C MAIN BLOCK

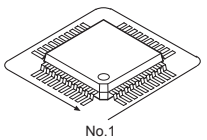
Notes :
:Radio Signal Line.
:REC Signal Line.
:MP3/FM/IC REC Signal Line.



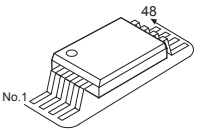
BLOCK DIAGRAM



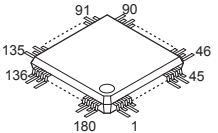
TEA5767HN



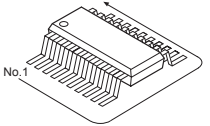
C3FBEC000011



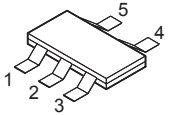
C2HBZG000008



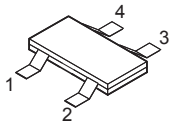
C0HBZ0000045



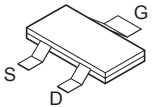
XC6367A333MR



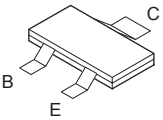
XC6213B282NR
XC61CN1602NR



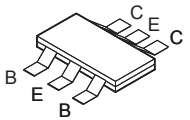
B1CFMC000005



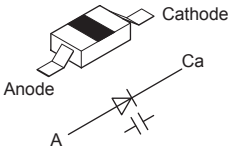
UN9115JTX
2SA1774STL
B1ADMB000012



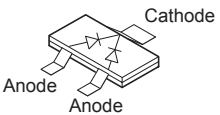
UMX1NTN



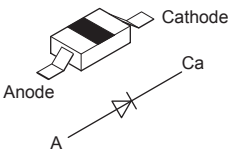
B0CCAA000001



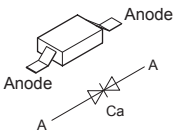
B0JDDB000002



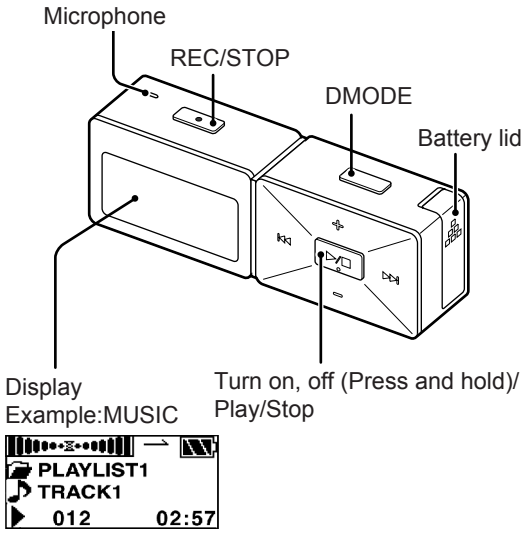
B0ACEM000008
MA2Z74800L

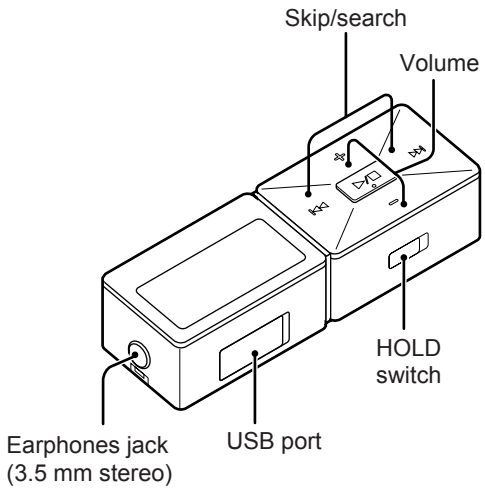


B0ZBZ0000070



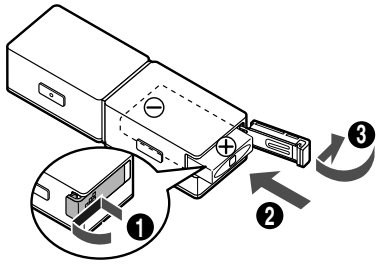
Location of Controls



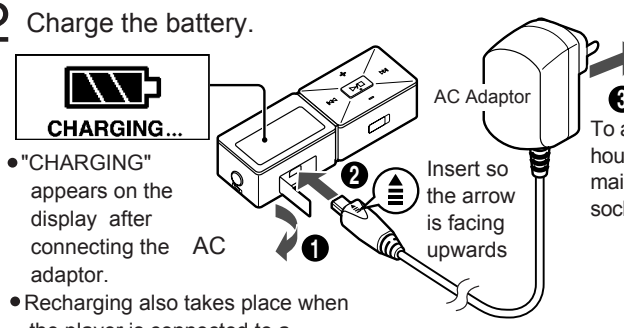


Rechargeable battery (included) Charge before initial use

1 Insert the rechargeable battery.



2 Charge the battery.



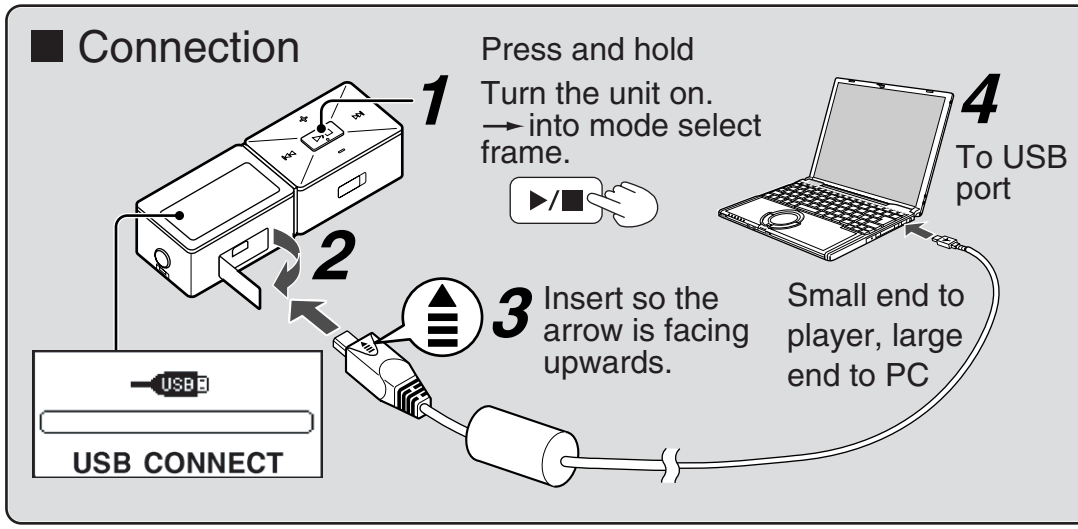
- "CHARGING" appears on the display after connecting the adaptor.
- Recharging also takes place when the player is connected to a computer's USB port.
- Operation cannot be guaranteed if you use a USB hub or extension cable.

Recharging time:
Approx. 6 hours

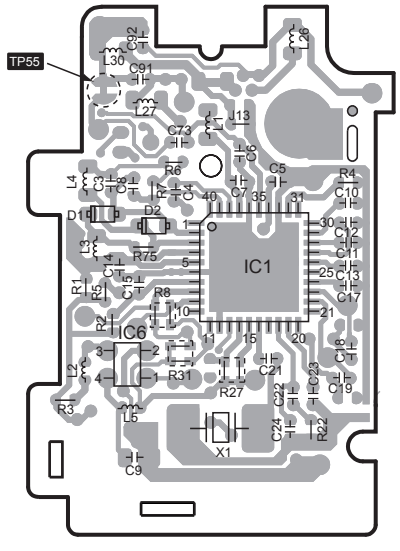
- The display will turn off when recharging is complete.

Connecting to a computer and downloading files

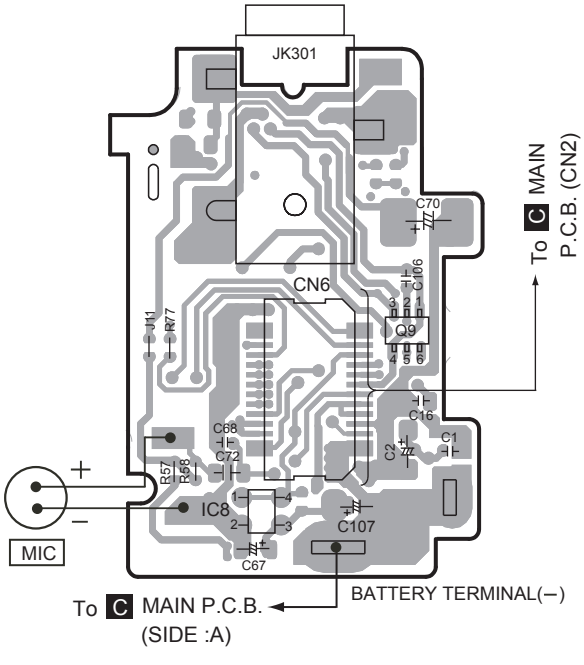
■ Connection



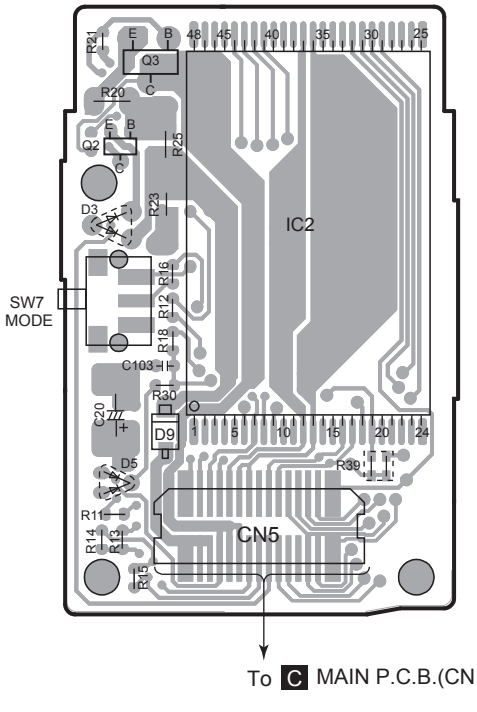
A TUNER P.C.B. (SIDE :A)



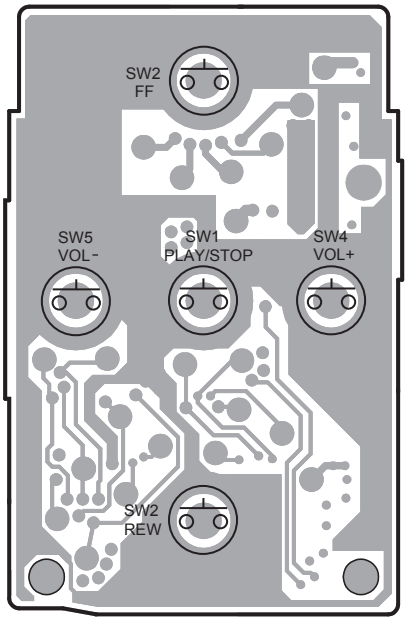
A TUNER P.C.B. (SIDE :B)



B MEMORY P.C.B. (SIDE :A)

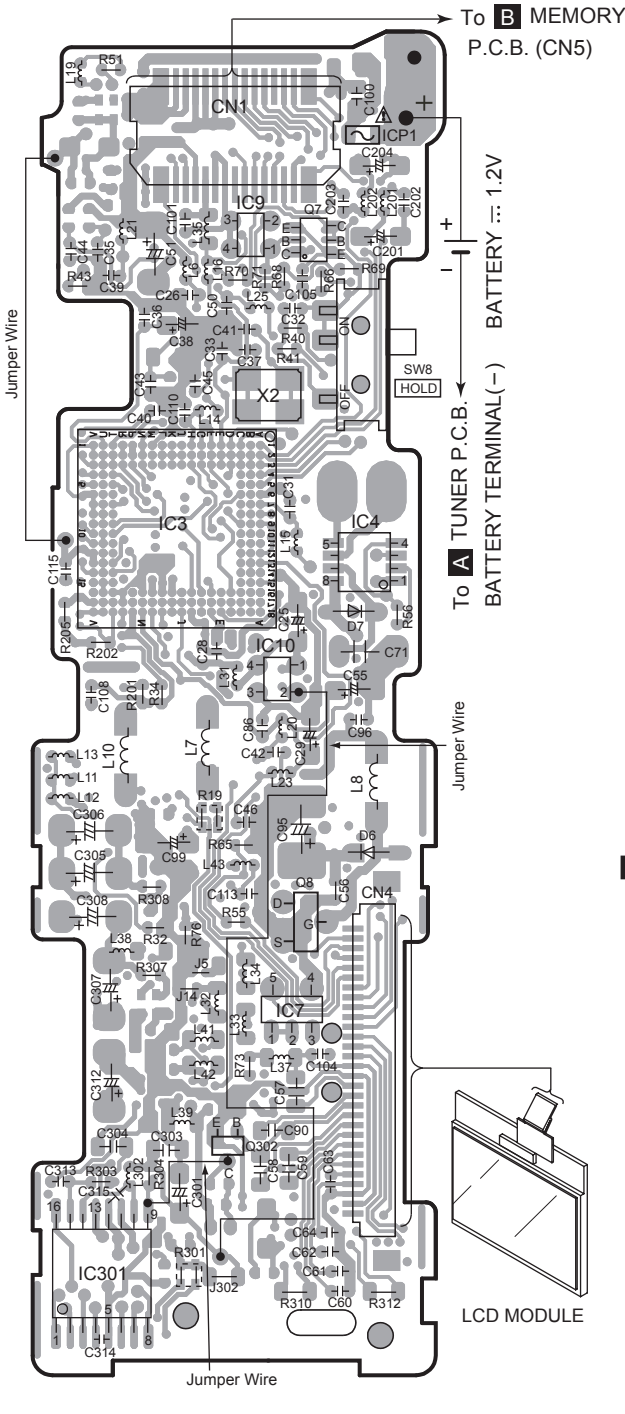


B MEMORY P.C.B. (SIDE :B)

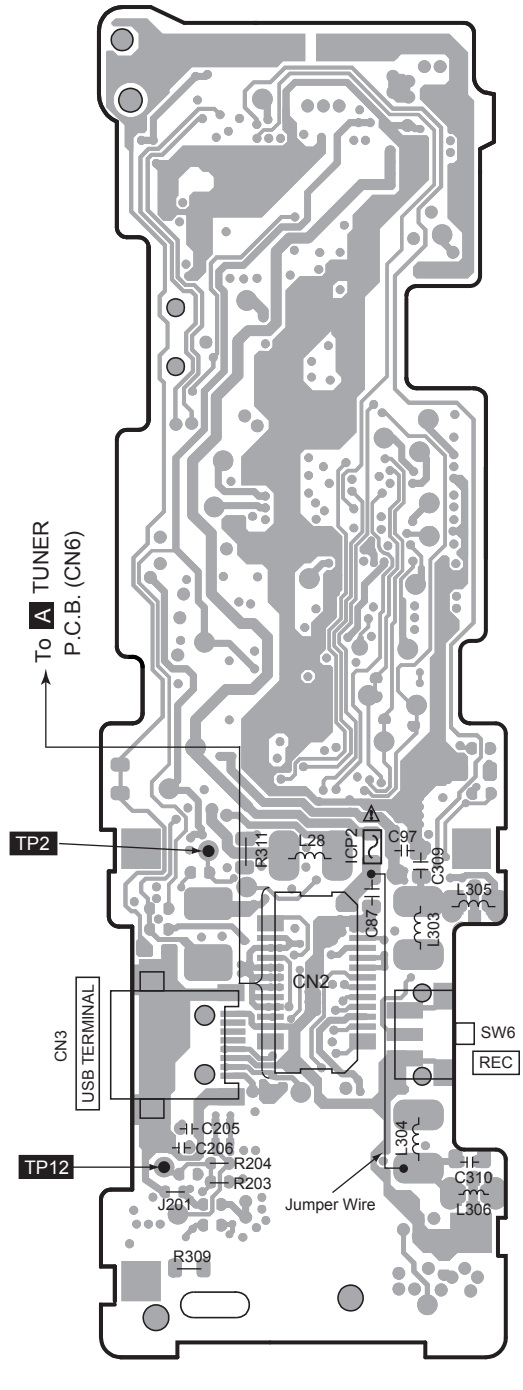


Note:
This printed circuit board diagram may be modified at any time with the development of new technology.

C MAIN P.C.B. (SIDE :A)



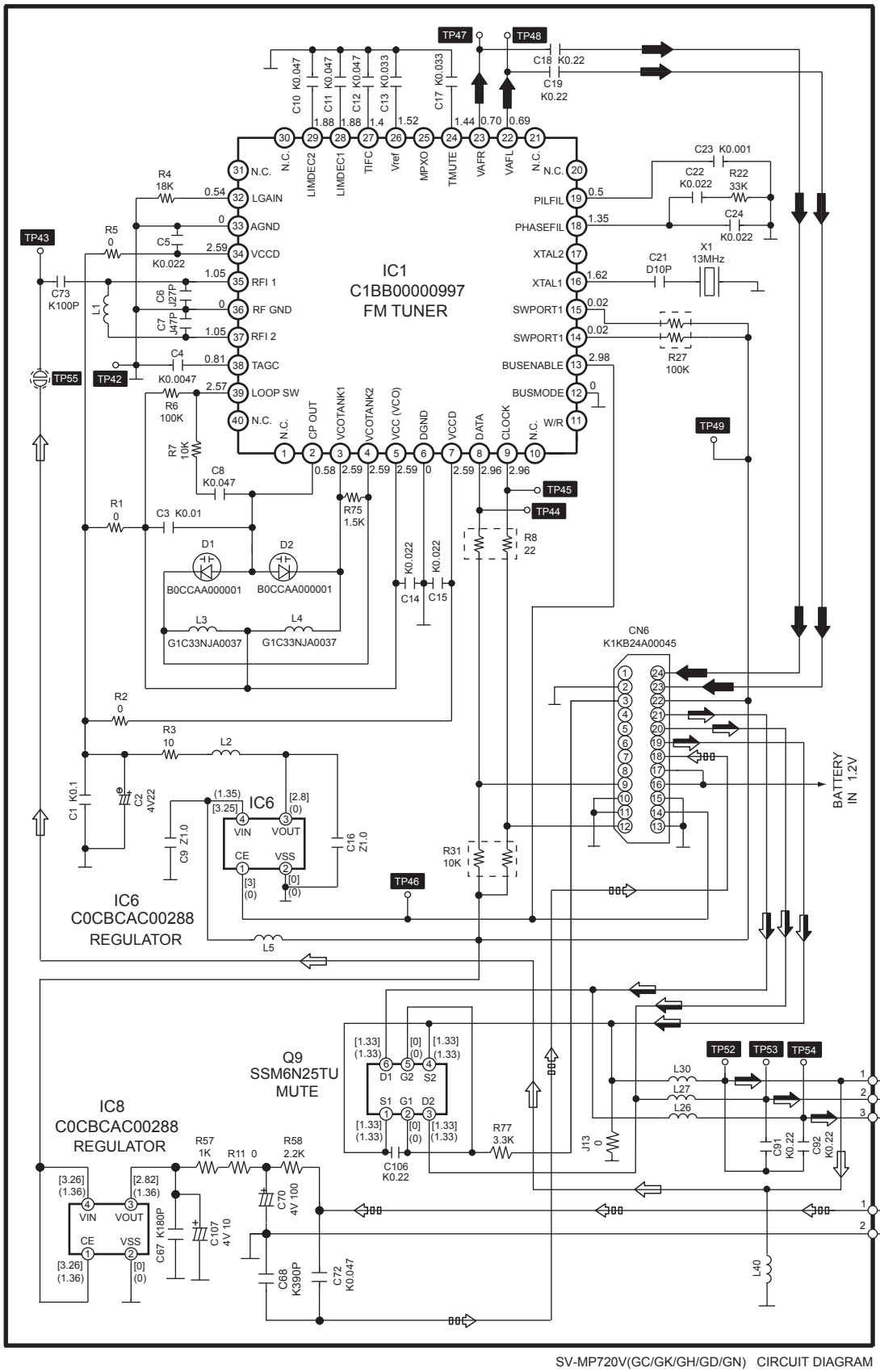
C MAIN P.C.B. (SIDE :B)

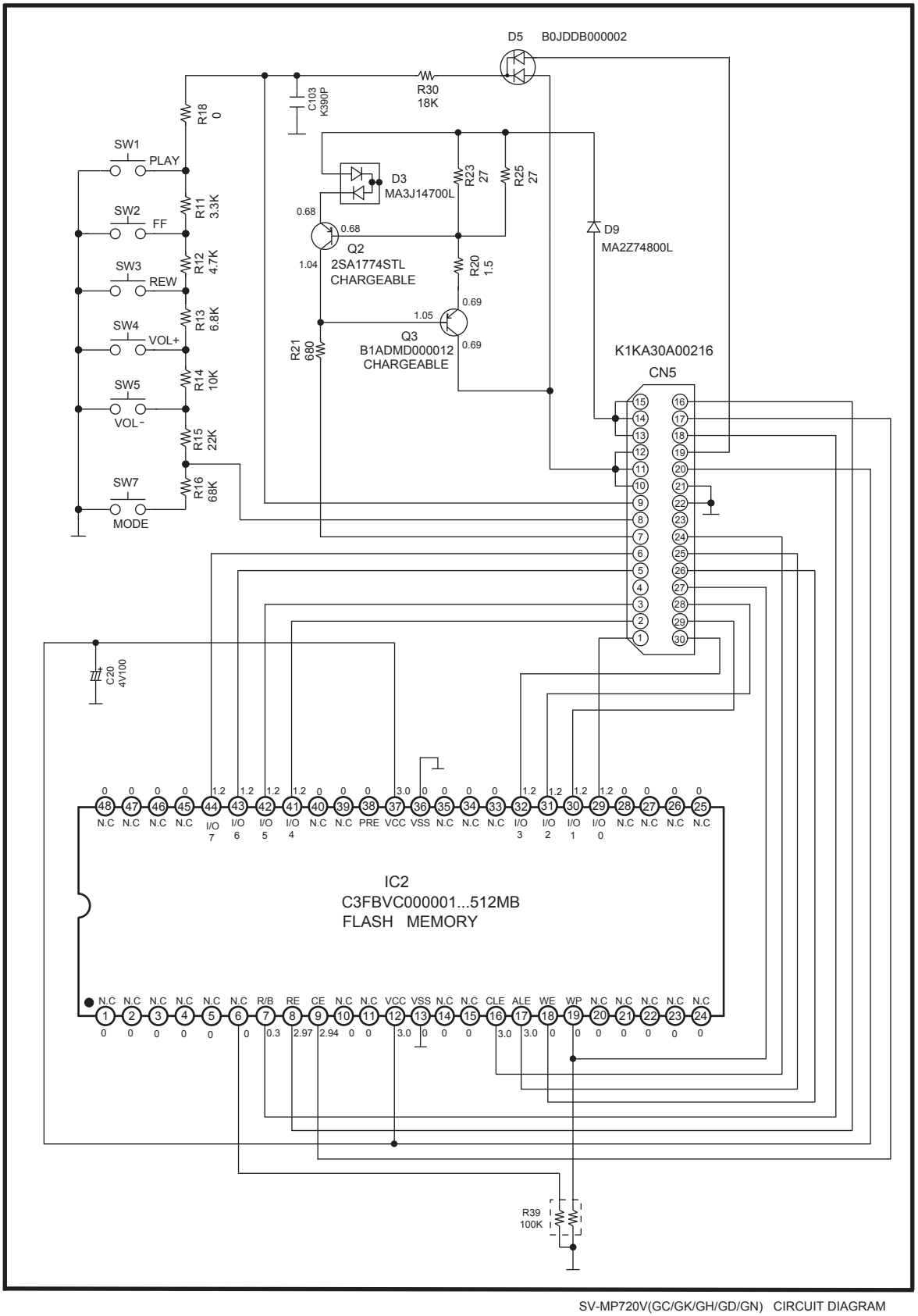


Note:
This printed circuit board diagram may be modified at any time with the development of new technology.

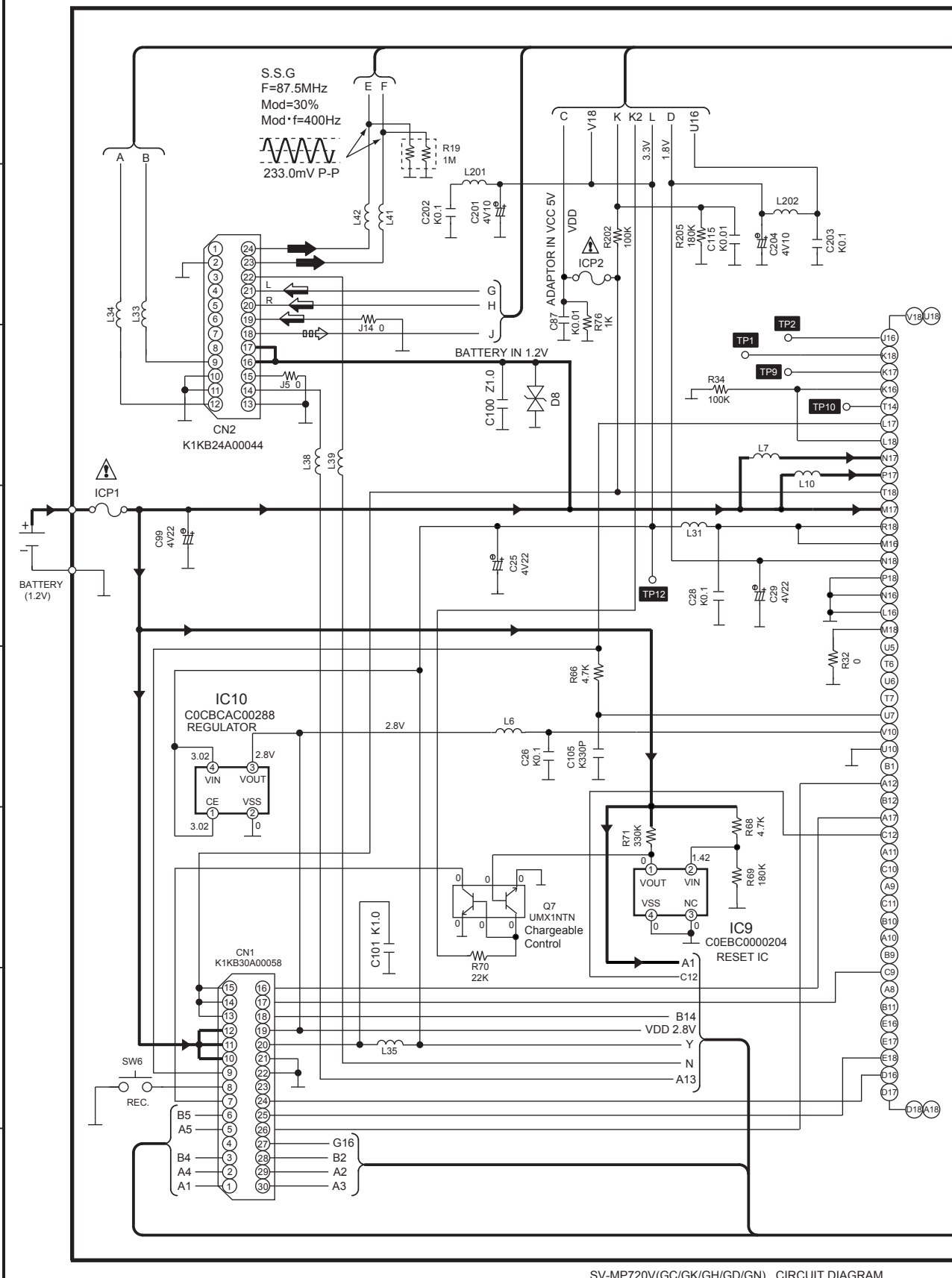
SV-MP720V(GC/GK/GH/GD/GN) MAIN P.C.B.

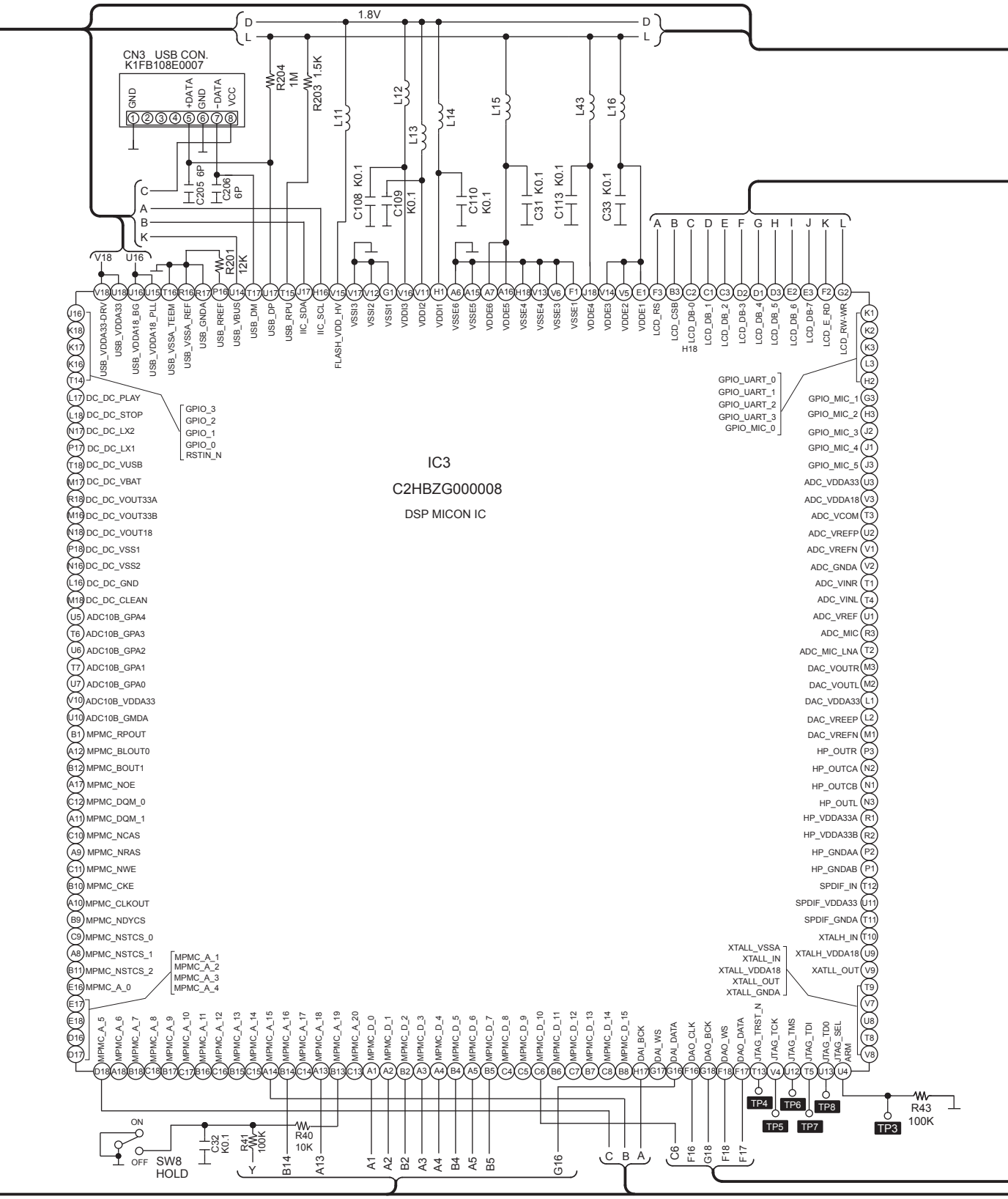
A TUNER CIRCUIT Schematic diagram-1

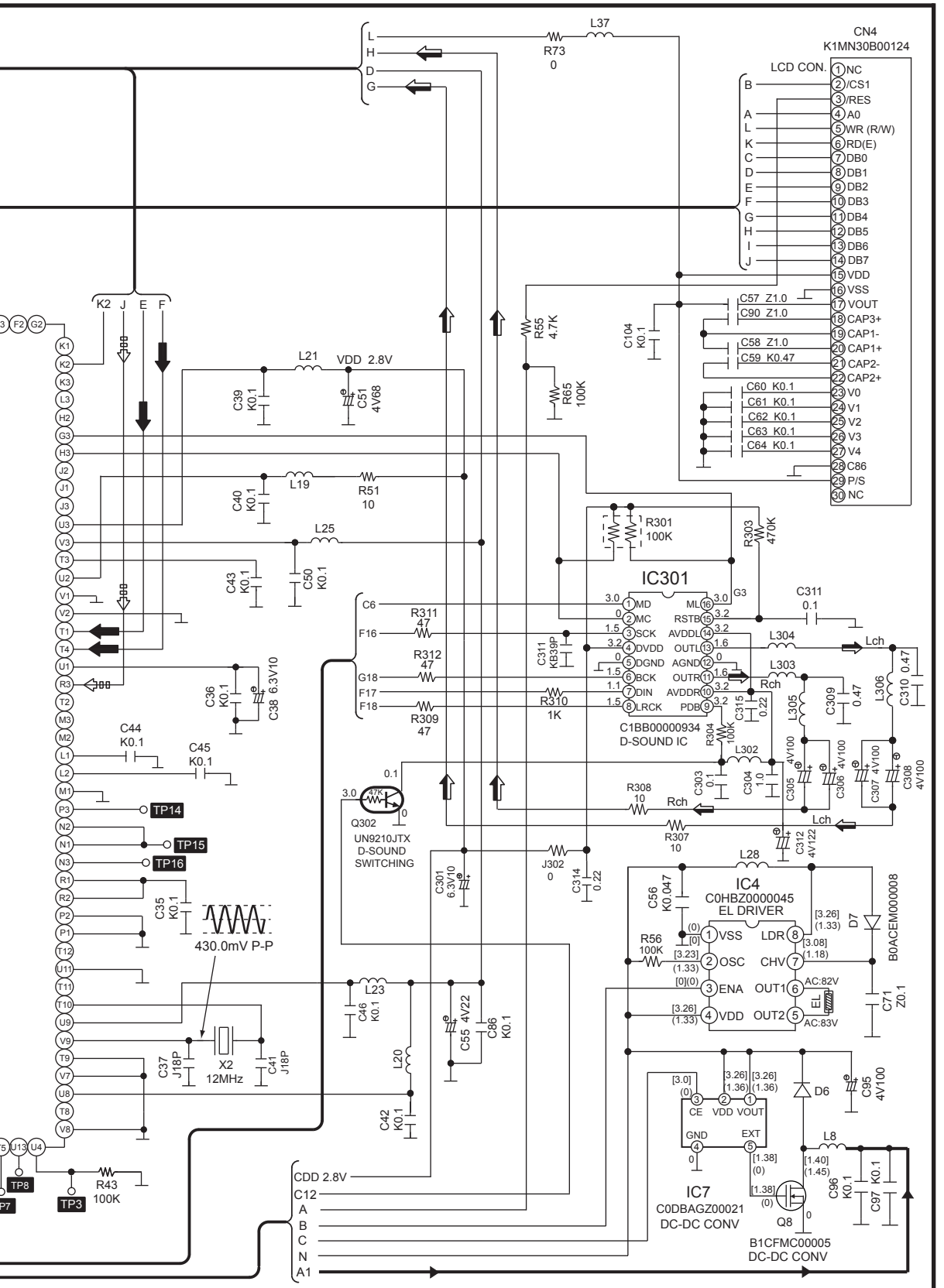



D5 B0JDDB000002
R30 18K
C103 K390P
R18 0
SW1 PLAY
SW2 FF
SW3 REW
SW4 VOL+
SW5 VOL-
SW7 MODE
R11 3.3K
R12 4.7K
R13 6.8K
R14 10K
R15 22K
R16 68K
D3 MA3J14700L
R23 27
R25 27
Q2 2SA1774STL CHARGEABLE
R20 1.5
Q3 B1ADMD000012 CHARGEABLE
R21 680
D9 MA2Z74800L
K1KA30A00216 CN5
C20 4V100
IC2 C3FBVC000001...512MB FLASH MEMORY
N.C N.C N.C N.C I/O 7 I/O 6 I/O 5 I/O 4 N.C N.C PRE VCC VSS N.C N.C N.C I/O 3 I/O 2 I/O 1 I/O 0 N.C N.C N.C N.C
N.C N.C N.C N.C N.C N.C R/B RE CE N.C N.C VCC VSS N.C N.C CLE ALE WE WP N.C N.C N.C N.C N.C
R39 100K

C MAIN CIRCUIT Schematic diagram-3




CN3 USB CON.
K1FB108E0007
GND
+DATA
GND
-DATA
VCC
1.8V
R204 1M
R203 1.5K
L11
L12
L13
L14
L15
L43
L16
C205 6P
C206 6P
C108 K0.1
C109 K0.1
C110 K0.1
C31 K0.1
C113 K0.1
C33 K0.1
IC3
C2HBZG000008
DSP MICON IC
R201 12K
C32 K0.1
R41 100K
R40 10K
R43 100K
SW8
HOLD
ON
OFF
TP3
TP4
TP5
TP6
TP7
TP8


CN4
K1MN30B00124
LCD CON.
1 NC
2 /CS1
3 /RES
4 A0
5 WR (R/W)
6 RD(E)
7 DB0
8 DB1
9 DB2
10 DB3
11 DB4
12 DB5
13 DB6
14 DB7
15 VDD
16 VSS
17 VOUT
18 CAP3+
19 CAP1-
20 CAP1+
21 CAP2-
22 CAP2+
23 V0
24 V1
25 V2
26 V3
27 V4
28 C86
29 P/S
30 NC
L37
R73 0
L
H
D
G
R55 4.7K
R65 100K
C104 K0.1
C57 Z1.0
C90 Z1.0
C58 Z1.0
C59 K0.47
C60 K0.1
C61 K0.1
C62 K0.1
C63 K0.1
C64 K0.1
K2 J E F
L21
VDD 2.8V
C39 K0.1
C51 4V68
L19
R51 10
C40 K0.1
L25
C43 K0.1
C50 K0.1
R301 100K
R303 470K
IC301
C311 0.1
C6
R311 47
F16
R312 47
G18
F17
F18
R309 47
R310 1K
C311 KB39P
C315 0.22
C1BB00000934
D-SOUND IC
L304
Lch
L303
Rch
L305
C309 0.47
L306
C310 0.47
R304 100K
L302
C303 0.1
C304 1.0
C305 4V100
C306 4V100
C307 4V100
C308 4V100
C36 K0.1
C38 6.3V10
C44 K0.1
C45 K0.1
TP14
TP15
TP16
Q302
UN9210JTX
D-SOUND
SWITCHING
R308 10
R307 10
J302 0
C301 6.3V10
C314 0.22
C312 4V122
L28
IC4
C0HBZ0000045
EL DRIVER
B0ACEM000008
C56 K0.047
D7
R56 100K
VSS
LDR
OSC
CHV
ENA
OUT1
VDD
OUT2
AC:82V
AC:83V
EL
C71 Z0.1
C35 K0.1
430.0mV P-P
X2
12MHz
C37 J18P
C41 J18P
L23
C46 K0.1
C55 4V22
C86 K0.1
L20
C42 K0.1
D6
C95 4V100
CE
VDD
VOUT
GND
EXT
L8
C96 K0.1
C97 K0.1
IC7
C0DBAGZ00021
DC-DC CONV
Q8
B1CFMC00005
DC-DC CONV
TP8
TP3
R43 100K
CDD 2.8V
C12
A
B
C
N
A1